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THE MEDITERRANEAN RACE:

A STUDY OF THE ORIGIN OF EUROPEAN PEOPLES

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WITH 93 ILLUSTRATIONS.

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PREFACE.

WHEN this little book was first published in an Italian edition in 1895, and in a German edition in 1897, I was still unable to obtain many anthropological data needed to complete the picture of the primitive inhabitants of Europe. In the English edition the book is less incomplete, richer in anthropological and ethnological documents, and hence more conclusive; it also contains replies to various objections which have been brought forward. This English edition, therefore, is not so much a translation of a work already published as a new book, both in form and arrangement.

The conclusions I have sought to maintain are the following:—

(1.) The primitive populations of Europe, after *Homo Neanderthalensis,* originated in Africa; these constituted the entire population of Neolithic times.

(2.) The basin of the Mediterranean was the chief centre of movement whence the African migrations reached the centre and the north of Europe.

(3.) From the great African stock were formed three varieties, in accordance with differing telluric and geographic conditions: one peculiarly *African*,

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remaining in the continent where it originated; another, the *Mediterranean*, which occupied the basin of that sea; and a third, the *Nordic*, which reached the north of Europe. These three varieties are the three great branches of one *species*, which I call *Eurafrican*, because it occupied, and still occupies, a large portion of the two continents of Africa and Europe.

(4.) These three human varieties have nothing in common with the so-called Aryan races; it is an error to maintain that the Germans and the Scandinavians, blond dolichocephals or long-heads (of the Reihengräber and Viking types), are Aryans; they are Eurafricans of the Nordic variety.

(5.) The Aryans are of Asiatic origin, and constitute a variety of the *Eurasiatic species;* the physical characters of their skeletons are different from those of the Eurafricans.

(6.) The primitive civilisation of the Eurafricans is Afro-Mediterranean, becoming eventually Afro-European.

(7.) The Mycenæan civilisation had its origin in Asia, and was transformed by diffusion in the Mediterranean.

(8.) The two classic civilisations, Greek and Latin, were not Aryan, but Mediterranean. The Aryans were savages when they invaded Europe: they destroyed in part the superior civilisation of the Neolithic populations, and could not have created the Greco-Latin civilisation.

(9.) In the course of the Aryan invasions the languages of the Eurafrican species in Europe were transformed in Italy, Greece, and elsewhere, Celtic, German, Slavonic, etc., being genuine branches of the Aryan tongue; in other cases the Aryan languages underwent a transformation, preserving some elements of the conquered tongues, as in the Neo-Celtic of Wales.

Some of these conclusions no longer arouse the same opposition as when I first brought them forward. The arguments meeting with most resistance are those tending to overthrow the ancient conception of an Aryan civilisation. The future will enable us to see these questions more clearly.

G. SERGI.

ROME, *February*, 1901.

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THE MEDITERRANEAN RACE.

CHAPTER I.

THE PHASES OF INDO-GERMANISM.

The Early Phase—The New Phase—Germanism—The Alleged Homeric Evidence—Celts or Lithuanians?—The Western Asiatic Origin.

The Early Phase.—Whenever there has been any attempt to explain the origin of civilisation and of the races called Aryan, whether in the Mediterranean or in Central Europe, all archæologists, linguists, and anthropologists have until recent years been dominated by the conviction that both civilisation and peoples must have their unquestionable cradle in Asia. It is well known that this conviction has been largely determined by the discovery of Sanscrit, which has served as a foundation for the comparative study of the languages called Aryan, Indo-European, and also Indo-Germanic. Thus "Arya" was assumed to be the centre of dispersion, at all events in part, according to primitive ideas of Biblical source transported from the valley of Mesopotamia to the Hindu Kusch, and Europe became an Asiatic colony into which civilisation had been imported together with its population.

I need not refer to the scientific enthusiasm pro-

duced by the study of Indian books and of comparative philology, nor to the eminent men who employed their intellect and activity in building up a literature which honours every European country. I will only recall that, as in earlier times it was believed that every tongue was derived from Hebrew, so it was now believed that European tongues, with the exception of a few classed among other linguistic families, were all derived from one mother tongue together with those of the Asiatic group; and it appeared that Sanscrit, more than its sister tongues, inherited the maternal characters in form and sound.

It was not long before these principles were applied to European ethnology and anthropology. Civilisation was supposed to come from Asia, the cradle of the Aryan speech and people, the centre of dispersion of European nations. European peoples in various troops, and at various successive periods, had set out from the common Asiatic centre and established themselves in their different seats in Europe, bearing with them a common patrimony of language and civil and religious institutions; there were thus various distinct groups, like the Italo-Greeks, the Celts, the Letto-Slavs, the Germans, originally constituting a single people with the Asiatic group of Indo-Iranians.

According to the more general opinion, the Aryans had invaded Europe from east to west, and then from north to south, subjugating the primitive and savage peoples they met with in the course of their occupation. During various pauses, of different length, before reaching their final destinations, they had begun to vary and diverge in language and other social manifestations, constituting so many distinct

varieties of the original single stock. The Italo-Greeks would thus have been united during their first pause in Europe, and would have had language, religion, and customs in common; then they would have separated into two quite distinct groups, occupying their definite seats in the two peninsulas of the Mediterranean, Italy and Greece, where, finally, each group would have become a distinct and characteristic people, an Aryan variety.

Thus it happened that Greeks and Italians were two distinct peoples, whose common origin and common patrimony of language and civilisation were concealed by the appearance of new and special forms arising in their own peculiar seats. The same phenomenon was supposed to have occurred in the case of the other European groups, Slavonic, Celtic, and Germanic, and of the Asiatic or Indo-Iranian groups. All these peoples, developing separately, and varying in their development according to region, became strangers to each other; it was Sanscrit, with the series of studies to which it gave rise, which unveiled the intimate relationship between languages so diverse and peoples so remote. Some, like Fick, have even wished to show that these European peoples are only a single people with many languages, which must be regarded as dialects of a single national tongue. When that is admitted, the two classic peoples of antiquity, Greeks and Latins, are essentially Aryans, and their civilisation is wholly of Aryan character.

But Indo-Germanism was not satisfied with these results, which were regarded as unquestionable; it invaded other regions and peoples at first excluded from the Indo-European stock, and attempted to

reduce the ancient relic of Iberian language, Basque, to the Aryan root, as well as Armenian. Nor was that enough: a language which appeared mysterious, and was so far indecipherable, must also be brought into the Indo-Germanic field, and extraordinary mental efforts (it is enough to refer to Corssen) were made to reconstruct Etruscan grammar according to Aryan morphology.

Anthropology, meanwhile, investigating the physical characters of European peoples, though without studying them deeply or completely, made it clear that between ancient Italians, Greeks, Celts, Germans, and Slavs there were profound and characteristic differences which showed clearly that they could not all belong together to the same human root; that there might be linguistic relationship without blood relationship, and that various peoples might have a common civilisation without having a common origin. Thus anthropology sought out the characteristics of European peoples on its own account, independently of linguistics and its results; but on coming to the study of origins it could not neglect linguistic, archæological, and historical studies as auxiliaries to its own efforts as regards the most ancient epochs of humanity. Palæ-ethnology and palæ-anthropology were born of the research into fossil man in Europe and elsewhere; the first of these, especially, soon adapted itself to the results acquired by linguistics, and looked towards the east as the cradle of European peoples and their civilisation.

Thus Indo-Germanism led to almost entire forgetfulness of the most ancient civilisations of the earth, those born in the valleys of the Euphrates and the Tigris, and in the valley of the Nile; no influence was

granted to them over Greco-Roman classic civilisation, almost none anywhere in the Mediterranean; Asiatic Indians were sought as the bearers of civilisation in Egypt, and Indo-Germans in Northern Africa and Western Asia.

The New Phase.—This enthusiastic period of Indo-Germanism was followed by another period with other characters which, in a more or less modified form, has lasted to the present day.

When it was recognised that the peoples of Aryan tongue and civilisation are not anthropologically a single stock, the idea arose that among these one must represent the authentic and original Aryan stock, while the other peoples must merely have been Aryanised, receiving their language and civilisation from the first. But in the working out of this inquiry, and the special and general investigations regarding the various manifestations of Aryan civilisation, some doubts arose among linguists and philologists as to the Asiatic origin of the European stock; in some, indeed, doubt grew to a conviction that Asia was not the cradle of the Aryans. Latham, Benfey, and Geiger were the first to think of a European origin for the Aryans. To-day the old hypothesis of the immigration from Asia into Europe is still maintained by a few of the eminent original upholders of the eastern origin, who, like Max Müller to the last, are unwilling to abandon their ancient convictions; later archæologists and linguists, philologists and palæ-ethnologists, have supported the theory of a European origin with keen enthusiasm, while among anthropologists there is either doubt or tacit acquiescence.

If the populations speaking Aryan languages

derived from one people with one mother tongue constitute distinct families, as they undoubtedly do, which is the Aryan population, or the genuine Aryan stock, in which the movement of Aryan civilisation arose? What do the other populations possessing Aryan language and civilisation represent? Where is the centre or cradle of the primitive Aryan stock? These problems closely touch the populations and civilisation of the Mediterranean, because the two classic peoples of antiquity, who exerted the greatest influence on the ancient and modern worlds, belong to the Mediterranean; it is necessary, therefore, to discuss these problems, at all events briefly, before coming to others which more directly concern the Greek and Italian peoples and their civilisation.

But it may not be useless to point out, first of all, that from the analytic studies and criticisms bearing on the Indo-European linguistic patrimony a fact emerges which is worthy to be noted, since it seems to me to be of capital importance in the solution of the anthropological problems of Europe. In the early days of the study of the Indo-European languages it was accepted as a demonstrated fact that the vocabulary of all the Aryan tongues was common, at all events in its more fundamental parts, including the elementary cognitions useful to human life; that all the elements that subserve social life, the family, primitive religion, inventions, useful arts, were indicated in the various Indo-European languages by words of common origin; that the traditions of the common country, and the animals, plants, and metals employed in primitive conditions, might be read in the spoken or written linguistic documents.

But all this common patrimony has continually

diminished when subjected to criticism, and has been reduced to a few elements. Hence it appears—or so at least it seems to me that we must interpret the linguistic phenomena—that among all the peoples of Aryan tongue the language was an importation, learned and assimilated by each people according to its own habitual phonetic conditions, which constituted the physiological laws of its primitive pronunciation; whence were derived change and transformation according to these laws, which were different for each people. The phenomenon is not new, and seems to me precisely similar to that produced by the importation of the Latin tongue into Gaul, Spain, and other countries, where the populations, possessing their own languages, in assimilating Latin talked it as the phonetic and physiological conditions of their own tongue demanded, —thus giving birth to the various Romance tongues.

At this distance of time it is difficult to ascertain what people originally possessed the Aryan speech and civilisation, and propagated it or imposed it on other European peoples of different physical type. But it seems to me impossible to admit that a people among whom the language is more fragmentary than in others, and the civilisation still in a rudimentary state, can have been that which originally carried both speech and civilisation to peoples who afterwards became famous in history for their political and civil greatness. How far we are to-day from those positions which were regarded as unquestionable by Pictet, Max Müller, Bopp, Pott, and others, may be clearly seen in the recent works of Schrader and others.

Such considerations may serve to show that these problems are not simple and isolated, but various,

complicated, and bound together, and that their solution depends on the united and convergent researches of ethnological and anthropological science; archæological and linguistic investigations, carried on separately, can never, in my opinion, reach decisive and sure results.

The second phase of Indo-Germanism is therefore still determined by the fact that linguists and historians, ethnologists and anthropologists, have entered the field to show the European origin of the Aryan stock, although the name Aryan no longer befits a people having origin in Europe. The more enthusiastic, in settling this great problem, have brought together in a compact phalanx all the arguments offered by archæology, linguistics, and anthropology, and have engaged with confidence in the struggle. In spite of the divergence of results, both as regards the physical type of the primitive Aryan stock and the localisation of its centre of origin and dispersion, many agree in believing that the Aryan peoples of the Mediterranean, the Greeks and Italians, emigrated into their two peninsulas from the centre or the north of Europe, conquering and subjugating the first inhabitants, to whom they imparted their speech and civilisation.

It may be useful to examine some of the arguments which appear a convincing demonstration to those who are unprepared to meet them or surprised by their vivacity.

Germanism.—I mean by "Germanism" the theory which attempts to prove that the Germans are the primitive Aryans; Pösche and Penka[1] are the boldest

[1] Th. Pösche, *Die Arier*, Jena, 1878; C. Penka, *Die Herkunft der Arier*, Wien, 1886.

upholders of the view that sees the fair race everywhere. "The fair race is found from the Arctic Ocean to the Sahara, from the Atlantic to Lake Baikal and the Indus; the southern shore of the North Sea is their centre of diffusion; there is the chief station of the fair race; and from these shores of the Baltic they moved in all directions." Thus wrote Pösche; but Penka, who equally recognised the extension of the fair race, only found it as an exception in regions remote from the centre of origin, and sought to justify the rarity of the type by climatic conditions to which the fair Aryans could not adapt themselves and so disappeared. If this argument may in some degree hold good for extreme climates like those of Scandinavia and Africa, Central and Southern Europe and India, it scarcely holds good for the difference between Central Europe and the Mediterranean, between Germany, Italy, and Greece, or between Bavaria, Würtemberg, Prussia, and the Baltic regions.

The fair races speaking an Indo-Germanic tongue, like the Celts, Germans, and Slavs, wrote Pösche, have subjugated the non-Indo-Germanic brown races and imposed their language and civilisation upon them; even though the fair race was small in number, it has acted in the same manner as when "the ancient fair Indo-Germans attacked the Finns, subjugated them, made them prisoners by thousands, reduced them to slavery, and little by little incorporated them." Thus the fair-haired people, a pure Indo-Germanic race for Pösche, Penka, and others, reached Greece and Italy, subjugated their primitive brown populations, and gave them their own Aryan speech and civilisation. In Homer and

in traditions these writers believe they find traces of the dominion of the fair-haired lords of these lands.

Thus the hypothesis that the fair race is the primitive and authentic Aryan race is more than a theory for these writers; it is a thesis, and the proofs of the thesis always set out from the presupposition that the Aryans are fair. Penka also maintains that Scandinavia has been the cradle and centre of diffusion of the fair race, the characteristics of which are white skin, blue eyes, high stature, and an elongated or dolichocephalic head. The arguments may be summarised in the following propositions: (1) the type of the inhabitants of Scandinavia is identical with the physical type of the pure Aryans; (2) this type has persisted unchanged in that peninsula from prehistoric times; (3) the Aryan type is identical with the palæolithic type of Central Europe; (4) the fauna and flora of Scandinavia are in harmony with linguistic results as to the place of origin of the Aryans; (5) the Stone Age in Scandinavia corresponds to the culture of the primitive Aryan race before its expansion.

If we look into Penka's arguments we soon discover that between two of them—the persistence of the Scandinavian type and the identity of the Aryan type with the palæolithic type of Central Europe—there is no agreement, but contradiction. The Neanderthal type is for Penka the palæolithic type; now between this and the Teutonic dolichocephalic type, which for German authors is that of the Reihengräber, there is an enormous difference; one might even say an abyss lies between them. The difference is so great that Virchow considers

the Neanderthal skull pathological,[1] Davis explained it by synostosis, while, indeed, it seems to me normal only because it is found at Brux and at Spy in unchanged form, without pathological signs. It would seem that for Penka dolichocephaly is enough to show the identity of the Quaternary and the Germanic types, but in that case all dolichocephalic skulls, even Australian, might be considered Indo-Germanic. Penka, indeed, feels constrained to admit development, and the transformation of the Neanderthaloid type into the Germanic, which contradicts his principle of the persistency of type, accepted for the Scandinavian type. There is, however, no middle path. Either the Scandinavian type is the persistent primitive Aryan type, in which case the palæolithic type of Central Europe is not Aryan, or the palæolithic type is primitive, and then the Scandinavian type is derived, and consequently not persistent, but recent. There is another fact against Penka's assertions, *i.e.*, the contemporaneous occurrence of the untransformed Aryan Neanderthaloid type with the transformed Aryan Scandinavian type, if it is true, as it unquestionably is, that the two forms still persist.[2]

Since, however, the fact of the persistence of cranial types is now assured in anthropology, and since the persistency of the Neanderthal type, now

[1] On the ground that the Neanderthal skull, as well as the other bones of the skeleton, revealed a number of pathological changes, Virchow reached the conclusion that we are here in presence of an individual specimen which cannot be regarded as typical of a race until confirmed by further discoveries. (*Zeitschrift für Ethnologie*, 1872, p. 157; also *ib.*, 1894, p. 427.)

[2] See in my *Specie e Varietà Umane;* "Gli abitanti primitivi di Europa," 1900.

rare and disappearing, has been shown, it is impossible to admit that the Aryan type is palæolithic in the sense understood by Penka.

But let us examine more closely the so-called Germanic type, which ought to be fair, of high stature, with blue eyes, and elongated head. Let us see how it is distributed in its own country, in Germany and the neighbouring regions, which are now Germanic lands. In order to be brief, I will simply transcribe the exact summary of the labours of German anthropologists made by Moschen, when speaking of the modern population of Germany with special reference to the origin of the Trentine population[1]:—"The old doctrine of the dolichocephaly of the modern Germans had already been attacked by Welcker,[2] who summed up the results of his researches on this subject in the following words: 'The modern Germans are in part brachycephalic, in part orthocephalic, never (speaking here of averages) dolichocephalic;' and he added that 'if the primitive Germanic stock was dolichocephalic, we must say that the Germans of old Germanic stock are only found in insignificant numbers in Germany.' Later researches have shown that the present populations of southern Germany are in great part brachycephals, among whom mesocephals are rare and dolichocephals quite isolated. Only in Central and Northern Germany are dolichocephals found more or less numerously, and they only become prevalent in the extreme north, in Denmark and Sweden. Let us examine a few

[1] "I Caratteri fisici e le origini dei Trentini," *Arch. per l'Antropologia*, Florence, 1892.

[2] *Ueber Wachsthum und Bau des Menschlichen Schädels*, Leipzig, 1862, p. 65; and "Kran. Mittheilungen," in *Archiv für Anth.*, Bd. i., 1866, pp. 149-150.

figures. In the Tyrol, Holl[1] has found among 1820 skulls examined in various valleys only 33 dolichocephals, representing 1.8 per cent., while the mesocephals are in a proportion of 14.9 per cent., and the brachycephals (with the hyper-brachycephals) in that of 83.2 per cent.; while Ranke[2] found among 100 skulls of Anterium, near Bolzano, no dolichocephals, 10 mesocephals, and 90 brachycephals; and among 100 skulls of the valley of Eno, near Innsbrück, again no dolichocephals, 23 mesocephals, and 77 brachycephals. In upper and lower Austria and in the Salzburg district, Zuckerkandl[3] measured 300 skulls; the dolichocephals were in the proportion of 2.7 per cent., the mesocephals 23 per cent., and the brachycephals 74.3 per cent. In southern Bavaria, of some 100 skulls measured by Ranke, the dolichocephals were in the minute proportion of 0.8 per cent., the mesocephals 16.3 per cent., the brachycephals 82.9 per cent.[4] In southern Baden, of 100 modern skulls of which Ecker has published measurements, there were no dolichocephals, and the brachycephals were in the proportion of 84 per cent.[5] In northern Bavaria, Ranke measured 250 skulls, of which 12 per cent. were dolichocephals, 20 per cent. mesocephals, and 68 per cent. brachycephals. In Friesland, Virchow found 18 per cent. dolichocephals, 51 per cent. meso-

[1] "Ueber die im Tirol vorkommenden Schädelformen," *Mitth. Anthrop. Gesell. Wien*, Bd. xv., Heft 2.

[2] *Beiträge zur phys. Anthrop. der Bayern*," München, 1883, p. 94, tab. xi.-xii.

[3] "Beiträge zur Craniologie der Deutschen in Oesterr.," *Mitth. Anth. Gesell. Wien*, 1883.

[4] *Beiträge*, etc., pp. 22-23.

[5] *Crania Germaniæ merid. occid.*, Freiburg, 1865.

cephals, and 31 per cent. brachycephals. Among 83 Danish skulls Schmidt found 57 per cent. dolichocephals, 37 per cent. mesocephals, and 5 per cent. brachycephals. According to Retzius[1] and Ecker,[2] dolichocephaly predominates among the modern Swedes, in every respect agreeing with the skulls of the ancient Franks of the Reihengräber."

From the statistics of colour of hair and eyes in Austria, Switzerland, and Germany,[3] it appears that "the brown area extends from the west of Austria through Switzerland (fair 11.1 per cent., brown 25.7 per cent.), Bavaria, Würtemberg, Baden, and Alsace-Lorraine, hence in all southern Germany, where the frequency of blonds varies from 18.4 to 24.5 per cent., and of brunets from 25.2 to 19.2 per cent. In central Germany the blonds gradually increase in a northerly direction, varying from 25.3 to 32.5 per cent., while the brunets gradually diminish in the same direction, varying from 18.22 to 13.2 per cent. It is only in northern Germany that the blonds decidedly predominate, varying from 33.5 to 43.3 per cent., while the brunets vary between 12.1 and 6.9 per cent." In the whole German empire, according to Virchow's statistics, the blonds are, on the average, 31.8 per cent., the brunets 14.05 per cent., and the mixed type 54 15 per cent.

[1] "Ueber die Schädelformen der Nordbewohnern," *Eth. Schriften*, Stockholm, 1864, pp. 1-24.

[2] *Op. cit.*, pp. 30-91.

[3] "Gesammtbericht über die von der deutschen anthr. Gesell. veranlassten Erhebungen über die Farbe der Haut, der Haare und der Augen," etc., *Archiv f. Anthr.*, xvi, 1886, von R. Virchow; Kollmann, "Die statist. Erhebungen," etc., *Denkschriften Gesell. für Naturwiss.*, xxviii., Basel, 1881; Schimmer, "Erhebungen über die Farbe, etc., bei den Schulkindern Oesterreichs," *Mitth. Anthr. Gesell. Wien*, 1884.

It is worth while to consider some of Virchow's opinions, concerning facts of so much weight, both regarding the physical characters of the skull and the external characters of colour of skin, eyes, and hair. At the Congress of German Anthropologists at Dresden in 1874, Virchow spoke regarding the extension of brachycephalic skulls in historical and prehistorical times.[1] He discussed a Finnic theory which he seemed disposed to accept, and he formulated the problem as follows: "Can we anywhere find traces, either in ancient or modern times, of a Finnic population, and are the Finnic or Lapponic types, or, as is said in France, the Esthonic, those that stand at the basis of the development of the actual population?" At the end of a long discussion Virchow was disposed to admit that the Finns have contributed to the brachycephaly of the north and the Ligurians to that of the south. A little later, discussing in a special work[2] the facts of German anthropology, he said: "No one has proved that all Germans possess the same cranial form, or, in other words, that they formed a single nation, like the more pure type that we see among the Suevi and the Franks." He admits, that is, that various types have formed the Germanic people. At the Congress of Karlsruhe, in 1885, he again expressed his opinion when presenting the results of the inquiry into colour of hair and eyes.[3] In order to explain the large proportion of brunets in Germany he proposes three hypotheses: (1) two stocks entered Germany, one

[1] *Archiv f. Anthrop.*, Bd. vii.

[2] *Beiträge zur physischen Anthrop. der Deutschen*, etc., Berlin, 1877, p. 361.

[3] "Gesammtbericht," etc., *Archiv f. Anth.*, xvi., 1886.

fair, the other dark, so that the population was mixed from the first; this theory he does not accept; (2) the fair was transformed by Darwinian methods; but this transformation is not possible, because there is not sufficient difference of physical conditions between northern and southern Germany to produce such a change; it is known that other German anthropologists, such as Holl[1] and Ranke,[2] have mistakenly admitted such a possibility; (3) there has been a varied and continuous mixture of types belonging to various populations. Virchow believes that mixture can establish a race, that a fair population can become dark by mixture, and *vice versâ*. Thus the Celts had much influence; we know, he says, that where the Celts entered the population is dark; "I am prepared to believe," he adds, "that the primitive Celtic, like the primitive Italic, population was not formed of blond but of brunet Aryans."

These doubts and difficulties expressed by Virchow concerning the minority of the fair dolichocephalic race in Germany suffice to show how fantastic are the easy demonstrations of Pösche and Penka. Virchow himself asks if the supposed authentic German type is not disappearing. And these two authors wish to show that this is what is happening. Penka, as I have said, believes that the pure Germanic type has diminished in Germany, and is only exceptionally found in southern Europe, in Italy and Greece, because it has not withstood the climate of those regions. We may leave aside Italy and Greece, the climate of which is not liable to destroy the Germanic or any other race; if, however, we consider Germany

[1] "Ueber die im Tirol," etc., *op. cit.*

[2] *Beiträge*, etc., *op. cit.*, p. 123.

itself we cannot reasonably grant that the climate of Bavaria and Würtemberg is not adapted to the Germanic race, and I need not contest so improbable a statement.

It seems to me that the existence of a pure Germanic stock cannot be demonstrated, whether in prehistoric or in protohistoric times. We do not find in Germany a pure dolichocephalic race, tall, fair, numerous, diffused widely throughout Europe; we find instead a mixed population of varying type in all the prehistoric graves of German territory.

Von Hölder, the author of a work on Würtemberg skulls which is of fundamental importance in the study of Teutonic anthropology,[1] has found a series of the most diverse types, Germanic, Turanian, Sarmatian, pure and mixed, in his opinion, with no predominant Germanic type. Lissauer finds a mixture of forms among ancient Prussian skulls, while Virchow, who has examined a vast number of skulls from old Germanic graves, finds the most varying shapes among the primitive population of Germanic soil.[2]

Why, then, affirm that the dolichocephalic type is disappearing, or has disappeared, when in reality it has never predominated on Germanic soil? Virchow never said a truer thing when he affirmed that the Germans have shown various types of skulls from the first, and were never a homogeneous nation with a

[1] *Zusammenstellung der in Würtemberg vorkommenden Schädelformen*, Stuttgart, 1876.

[2] Cf. *Zeitschrift für Ethnologie*, Bd. x., Lissauer, "Crania Prussica," ind. cef. 63-86; Bd. xii., Virchow, "Alte Berliner Schädel," ind. cef. 78-86; *id.*, "Schädel von Neuestädter Felde," ind. cef. 68-85; xiii., *id.*, "Schädel von Eicha (Thuring.)," ind. cef. 80-86; *id.*, "Von Spandau," ind. cef. 78.6-83, etc.

pure type that might be found among the Suevi and the Franks. I believe that I am in the right, since my opinion is founded on anthropological and historical data, when I affirm that at their origin the Germans were not a distinct people from the Celts or from the Slavs, with both of whom they were always united and often confused. The Franks of the fifth century were a northern people, less mixed in earlier times, and hence appearing somewhat more uniform in the graves of the Rhine district at a rather late epoch.

The Alleged Homeric Evidence.—These brief considerations seem to me to be sufficient to show that since it is difficult to find the Germans in their own home we cannot expect to find them as an Aryan stock in Greece and Italy, subjugating the dark populations and creating the two great Mediterranean civilisations, Hellenic and Latin, also called Aryan; still less can we connect them with the more ancient Mycenæan or Ægean civilisation, as it is to-day called. The disappearance of the Germanic type among the Mediterranean populations, assumed by Penka, is a necessity imposed by the fact that this type is sought in vain where it is supposed to have dominated, except as a sporadic element easy to explain through the course of ages by the immigration of races or families or individuals.

But I cannot pass in silence the supposed testimony to the presence of the fair type in Greece, and to its superiority over the darker population, furnished by the Homeric poems, in which, it is affirmed, the heroes and gods are described as of the fair type with blue eyes. I have made a special investigation into this point and here present the results.

In Homer Athena is *glaukopis; glaukos* means

blue, like the sea and the unclouded sky; it is also equivalent to *phoberos*, terrible (of the eyes); the olive is *glaukos* also, and Athena is the guardian of the olive; it also means shining, and is said of the dawn and the stars. In Athena's case *glaukopis* means that her eyes are brilliant and terrible. Empedocles uses *glaukopis* of the moon, and it is even doubtful if in Homer it ever means blue.

Apollo in Homer is *chrysaoros*, that is to say bearing a golden sword; the title of "fair" is later; *xanthos* is never used of Apollo in Homer, and if he were fair it would be like the sun. Apollo with golden hair, *chrysokoman*, is found in Euripides and Athenæus, as "fair Dionysus" is found also in Euripides, that is to say at a much later time. *Xanthos* means a reddish fairness, and also brown. Artemis is *eustephanos;* there is nothing as to being fair.

Aphrodite is *chryse*, golden, that is to say, brilliant, splendid, not fair.

Demeter is *xanthe*, fair, it is true, but we must remember that Demeter (Ceres) is the symbol of harvest, fair like the spike of corn, as of Poseidon (Neptune), who is *kyanochaites*, that is to say with bluish, blackish, even black hair, like the dark and deep waves of ocean; *kyanos* is black, blue-black, violet, in Homer sometimes blacker than *melas*. In Demeter, therefore, the title of fair is only a symbol for the colour of harvest.

Eos, the dawn, is *chrysothronos*, *rhododaktylos*, *krokopeplos*, because the colour of dawn is golden, rosy, and red.

Thetis, on the other hand, is *argyropeza*, *i.e.*, with silver feet, the foaming wavelets of the sea.

Hera (Juno) is *chrysothronos, leukolenos, eukomos*, and Kalypsos is only *eukomos;* neither is fair.

Achilles, however, is *xanthos* like Rhadamanthus; but *xanthos* means not only fair, but also chestnut, brown, and bees are *xanthai.*

It results from this analysis that in Homer none of the divinities are fair in the ethnographic sense of the word; only Achilles and Rhadamanthus might be considered fair if we accept the word *xanthos* in its later sense. No other hero is described as fair.

In regard to the Homeric expressions in heroic narratives relating to the men of a previous age confronted with contemporaries,[1] no one can fail to recognise that it is always usual to magnify past times and celebrated heroes.

The Romans had also their Flavi, which indicates that fair persons were uncommon, and required a special name, but does not indicate that the Germanic type was considered aristocratic or dominant.

I could bring forward a wealth of facts to show that what I have just stated regarding the anthropological characters of the Homeric gods and heroes may also be said, and with more reason, of the types of Greek and Roman statuary which, though in the case of divinities they may be conventionalised, do not in the slightest degree recall the features of a northern race; in the delicacy of the cranial and facial forms, in smoothness of surface, in the absence of exaggerated frontal bosses and supra-orbital arches, in the harmony of the curves, in the facial oval, in the rather low foreheads, they recall the beautiful and harmonious heads of the brown Mediterranean race.

[1] *Iliad*, v. 304, xii. 583, xx. 287.

Winkelmann noted the correspondence between the types of Italian art and the population, and wrote that in the finest districts of Italy one met few of these roughly outlined faces of uncertain or defective expression such as are met so often on the other side of the Alps; on the contrary, the features are distinct and vivacious, and the forms of the face large and full, with all the features in harmony.[1]

Thus we are not able to see any sound evidence in the Greek and Latin peoples to indicate that a northern race dominated the two peninsulas in primitive times; the idea is an illusion of Indo-Germanism.

Celts or Lithuanians?—As a variant of Indo-Germanism we are confronted by Celtism, maintained chiefly by the French, as a reaction against the theory of the superiority and supremacy of the blond Germanic type. Mortillet, Ujfalvy, and others, have maintained that the bearers of European neolithic civilisation were the Celtic brachycephals, not the German dolichocephals; and Ujfalvy has justly observed that the superiority of a race consists not merely in physical energy and restlessness, but in pre-eminence of mental faculty, showing itself in artistic and intellectual genius, as in the Greeks and Latins. I would add that a race cannot even be said to be physically superior if it is unable to resist the mild climate of the Mediterranean, but disappears as required by Penka's theory.

This opinion coincides, in great part, with that of Taylor, who contests the right of the blond dolichocephalic Germanic stock to represent the original Aryan race which bore language and civilisation to other peoples. Taylor, indeed, contests that

[1] *Geschichte der Kunst*, Stuttgart, 1847, vol. i., Bk. i., p. 33.

right also to the Celts, but he concedes much to them since he regards brachycephaly as a character of great superiority.[1]

He maintains that the Lithuanians, whom he believes, not quite accurately, to be brachycephalic, are the authentic primitive Aryans, and that from them the Celto-Latins received their language, and with it the Aryan civilisation. His arguments are in large part linguistic, but also ethnological and anthropological. He believes he has proved that the neolithic population of the pile-dwellings of southern Germany and Switzerland and northern Italy may be identified with the brachycephalic ancestors of the race he calls Celto-Latin.

To maintain this position it was necessary to create an anthropological theory, and this Canon Taylor has done. He assumes that the Ligurians are brachycephalic, as indeed is still erroneously believed by German and French anthropologists; Romans and Umbrians, most of the Italic population, together with the Hellenic stock, are declared to be brachycephalic. According to Taylor, the brachycephals are the superior race; thus he writes: —"Virchow, Broca, and Calori agree that the brachycephalic or 'Turanian' skull is a higher form than the dolichocephalic. The most degraded of existing races, such as the Australians, Tasmanians, Papuas, Veddahs, Negroes, Hottentots, and Bosjemen, as well as the aboriginal forest tribes of India, are typically dolichocephalic; while the Burmese, the Chinese, the Japanese, and the natives of Central Europe are typically brachycephalic. The fact that the

[1] Isaac Taylor, *The Origin of the Aryans*, Contemporary Science Series, London, 1889.

Accadians, who belonged to the Turanian race, had, some 7000 years ago, attained a high stage of culture, from which the civilisation of the Semites was derived, is a fact which makes it more probable that the language and civilisation of Europe was derived from the brachycephalic rather than from the dolichocephalic race."[1] Now, all this is fanciful, and it is not necessary to confute it; moreover, the Latins and other Italic peoples, the Greeks and the Egyptians, are for the most part dolichocephalic. I remember that shortly after the publication of his book, Canon Taylor visited me at the Gabinetto di Antropologia; I had not yet overcome the surprise produced by a book in which—however valuable it may be in other respects—the facts were on this point so changed, and I led him into the Museum and showed him the ancient Roman and Etruscan heads, for the most part dolichocephalic, and then conducted him to the Prehistoric Museum to point out that in the Ligurian skeletons of Finalmarina the heads are elongated and not brachycephalic. He was surprised, but I do not know if he was convinced, for those who are not accustomed to the direct observation of facts are more impressed by ideas, especially when on these ideas they have erected an elaborate edifice. In this respect Taylor has surpassed Pösche and Penka.

The Western Asiatic Origin. — Archæologists, it seems to me, reveal a defect in their methods for investigating the origins and diffusion of a civilisation when they take little or no account of the physical characters of the peoples among whom the civilisation is found; historians maintain the same defect, and

[1] *Origin of the Aryans*, p. 241.

both alike are content with ethnic names and pass over the physical characters of nations, or else trust to language, most often a deceptive method of recognising a race or a people. The difficulties surrounding the question of the origin and diffusion of the Ægean or Mycenæan civilisation becomes greater when we are ignorant of the race that produced it, its extension, origin, and dispersion. To believe that two peoples belong to two different stocks because they have different languages and unlike civilisations is often a mistake; and to believe that two peoples are of the same stock because their languages and civilisations are similar or related may also be a mistake. The Mediterranean is a sphinx with various faces, and to solve its enigma we need to know the stock or stocks that have peopled it.

I shall attempt the anthropological solution of this enigma in the following pages. It may first, however, be well to refer to a recent dogmatic attempt to solve this problem which shows how necessary it is that all the scientific methods, ethnographical, archæological, anthropological, linguistic, as well as geographical, should converge in the solution of the problem of the origin and diffusion of Mediterranean civilisation. I refer to the attempt of Padre Cesare de Cara in his work on the Hethei-Pelasgi.[1] The chief object of this investigation is to show that a very ancient people, neither of Aryan nor Semitic origin, from time immemorial occupied Syria and Asia Minor, and thence in various successive migrations peopled Greece and Italy, bearing with them their own native civilisation as it existed in Asia and afterwards in

[1] *Gli Hethei-Pelasgi: Ricerche di Storia e di Archeologia Orientale, Greca ed Italiana*, Rome, 1894.

the Ægean. This is the Pelasgic people of ancient history and Greco-Italian tradition, in Asia Minor and Syria, Eteo, Hetheo, or Hittite, as it is variously written; thus the Hetheo-Pelasgic people would be a single stock with two names, one Asiatic and primitive, Khatti, Kheti, Hethei, as it was known to the Assyro-Babylonians, the Egyptians, and the Hebrews, corresponding to its national name in its own tongue; the other name derived and in a Greek form, signifying wandering or colonial Hethei. Early Greek and Italian civilisation would thus be born in Western Asia and exported by the primitive Hethei in their migration. This people, or rather confederation of peoples in this author's opinion, possessing a vast dominion not only in Asia Minor up to the Euphrates, but in Colchis, the Euxine, in Scythia, would be neither Aryan nor Semitic, but Hamitic, having a common origin with the Egyptians and Babylonians, both of Hamitic origin according to this author, like many African peoples. They would have possessed neither Semitic language nor civilisation, and would have alike preceded the Semites in Phœnicia, thus being pre-Phœnician, and the Hellenes in Greece. Accepting this centre of diffusion, the author stops at the Italian peninsula, when he finds the Pelasgians, and goes no further westward to the Iberian peninsula. Pelasgic traditions stop there also, and other racial names are found, Ligurian and Iberian, as in northern Africa the Libyans, a people belonging, as we shall see, to the primitive Mediterranean stock. Thus De Cara's study does not suffice to give any explanation of the civilisation which we find in primitive days to the west of Italy and in northern Africa, nor of the origin of the people in

these regions, where the author does not appear to find the Hethei-Pelasgi. He reaches his conclusions by the study of the recent discoveries in the Asiatic East and in Egypt, as well as of the recent discovery, in Troy, Cyprus, and Crete, of pre-Hellenic Greece and prehistoric Italy; he places all this wealth of archæological knowledge in relationship with the historical traditions and the mythologies of the ancient Greek and Latin writers and with the inscriptions on the Egyptian monuments, recording the peoples with whom the Egyptians came in contact. In all this De Cara shows wonderful intellectual ability, unusual courage in the interpretation of Hittite monuments, and, above all, a method which, I believe, will be of great use in the future in the interpretation of the Hittite language—that is to say, the comparison of what is believed to be the Hittite language with ancient Egyptian as two branches of the same stock, which he calls Hamitic. Thus he attempts to explain all the names of towns, rivers, districts in Asia Minor, now Grecianised, not by comparison with Aryan or Semitic languages, but with Egyptian. Frequently the explanation seems successful, in other cases forced; although it is probable that he has often abused etymological resemblance, it seems to me that he has opened the right road, and that he has revealed the method of deciphering the mysteries of Mediterranean ethnography. Indo-Germanism, however, receives a heavy blow, in my opinion, in so far as it is the theory hitherto adopted to interpret the most ancient civilisation of the Mediterranean basin.

But among the great difficulties which De Cara has to overcome in maintaining that the Hittites have

appeared from the east, bearing their original civilisation towards the west, is that of explaining how it is that in the west, including Greece and Italy, no indication can be discovered of Hittite writing and art; hitherto, in fact, it has been impossible to find that either the mysterious and indecipherable Hittite inscriptions, or the bas-reliefs on the rocks, as in Asia Minor and Syria, in the slightest degree suggest any common origin for Ægean and Hittite civilisations.[1] De Cara thus has to reject any influence of Assyro-Babylonian art on that of the Hittites, making it an independent art, which seems impossible; it appears to me that there is more Mesopotamian art among the Hittites than Hittite art in the Mediterranean. If Cyprus contains elements of Hittite civilisation, and many elements of Mesopotamian origin,[2] this is not surprising on account of its geographical position. But of this I shall have to speak later.

I cannot agree, therefore, with this distinguished writer concerning the Asiatic origin of the Mediterranean peoples, but I recognise that he has brought about a new phase of the problem of Mediterranean civilisation and its creators, and that his opinions have many points of contact with the inductions I shall here have to bring forward.

[1] Reinach has already brought forward this objection.

[2] De Cara, "Cipro," *Civiltà Cattolica*, Nos. 1070 e 1072, Rome, 1895; Ohnefalsch-Richter, *Kypros, die Bibel und Homer*, Berlin, 1893.

CHAPTER II.

THE PEOPLES OF THE MEDITERRANEAN.

The Problems—The Mediterranean Basin—The Racial Names of the Mediterranean Family—Method of the Investigation.

The Problems.—Among the problems which agitate archæologists and ethnologists there are two that are intimately related to each other: the origin of Mediterranean civilisation, and the origin of bronze in Europe together with its importation into the regions where that civilisation is most developed. These two problems, complex and important in themselves, are connected with many secondary problems, or problems which seem to be secondary, and these help to solve the first when they can themselves be solved with full assurance. If the East exerts any influence over Mediterranean civilisation, how far does that influence extend? Has there been any Egyptian influence in the Ægean Sea? Who were the Etruscans? Did they arrive by Alpine routes, or are they a maritime colony of eastern origin? Who were the Pelasgians? Were they an imaginary people, or a people possessing real existence and importance among the populations of the Mediterranean?

Many have believed that these and similar problems may be solved by archæology and philology alone, or by means of tradition. They have more

or less completely ignored the assistance which can be given by ethnographic anthropology and the study of the physical characters of the races among which the civilisations are found, following the migrations of the races in various regions, their power and their decadence in the struggle with peoples of other stock. The race or the stock which is diffused by emigration bears with it also a civilisation which likewise undergoes modifications but always preserves its original characters. A stock which always preserves its physical characters, in spite of the infiltration of foreign racial elements, and which predominantly retains its own primitive racial composition, must be sufficiently strong and resistant to impress the characters of its own civilisation also on the elements which it meets and becomes mixed with. A stock which in its savage or half-savage state is so numerous and so strong that it can people a vast portion of the globe, and when civilised can conquer and dominate by arms an immense territory, may also create a civilisation and propagate that. Such considerations may enable us to see that physical anthropology is an indispensable aid in the solution of these problems.

Until recent years the Greeks and the Romans were regarded as Aryan, and then as Aryanised, peoples; the great discoveries in the Mediterranean have overturned all these views. To-day, although a few belated supporters of Aryanism still remain, it is becoming clear that the most ancient civilisation of the Mediterranean is not of Aryan origin but the product of a stock composed of many consanguineous peoples, which occupied the Mediterranean from a common centre of diffusion, through bearing

different racial names. This stock, which I term Mediterranean, has formed the subject of my studies for many years, in the hope that I may be able to contribute to the solution of the problems I have stated.

The Mediterranean Basin.—The basin of the Mediterranean is not merely European; Asia and Africa also form part of it, and it may be said that its waters formed a point of contact for three-quarters of the ancient world. In this contact arose and developed the civilisation which has chiefly influenced modern peoples, and which continues its influence; the other civilisations perished completely or belonged to a world less in touch with the social life of humanity, though they may have constituted grandiose states like Babylonia and Assyria. Of these we possess to-day the historical records, which have an artistic and monumental value, but their social order, which is so large a part of a nation's civilisation, has left no influence on modern life, while Latin civilisation still lives, more or less transformed, in modern social life. The peoples nearest to Asia, and which most strongly felt Asiatic influence in their development, have sunk like the Asiatic peoples, some having disappeared even from history; to-day we have to disinter them from among the remains of their monuments and their indecipherable language.

The Mediterranean has presented the most favourable conditions for the development of a civilisation more cosmopolitan than those born in the valleys of great rivers like the Euphrates, the Tigris, the Nile, or the five great rivers of India. The Mediterranean, with its large and small peninsulas, its numerous islands, its water-ways to other seas, and to the

interior of the surrounding land, has furnished points of contact and struggle between many nations, arousing the internal and external activity of each, in the direction most useful to its existence and growth.

To these may be added other natural conditions which have made the basin of the Mediterranean one of the happiest habitable regions of the globe: its temperate climate, the fertility of its soil, the abundance of its produce in every kind. Hardly do we leave this happy basin than we enter deserts in Libya, Syria, and Arabia, or regions considered inhospitable in ancient times, like Scythia and Central Europe; the Black Sea was by the Romans considered an inhospitable region in comparison with Italy, in which the centre of development of civilisation was not the valley of the Po, but the central and southern regions; just as in Greece it was not in Macedonia that art and philosophy flourished.

Into this basin from time immemorial has been poured a human stock divided into many peoples, of which the origin and point of departure has hitherto been unknown in spite of the numerous and varied conjectures of historians, archæologists, and ethnologists, some finding the place of origin in the Asiatic Orient, some in the North, others believing that some race or people, without name or culture, remained as a foundation of the population but was dominated by powerful and civilised invaders. I hope to show, however, that there was really a centre of dispersion of the Mediterranean stock, which in far remote times, probably Quaternary, anterior to all tradition, occupied the regions which surround this great basin, and that the various peoples derived from this stock

have possessed the most ancient native civilisation in the countries, islands, and peninsulas they occupied. I believe, further, that we must not make an absolute separation, such as is commonly made, between the various regions of this basin; the invaders or immigrants in the Mediterranean spread both to east and west, to south and to north, of the sea; that is to say, they inhabited Asia Minor, Syria, Egypt, Libya and the rest of Northern Africa, Greece, Italy, and the Iberian peninsula.

Thus this geographical region is an anthropological unit; it is not Asia nor Africa nor Europe which has become the centre of civilisation and of dispersion, it is the whole basin of the Mediterranean. This stock, with its various ethnic names, constitutes a family of peoples which I have long denominated "Mediterranean" on account of their geographical position and anthropological stability. The family is not confined to this basin, but has become diffused towards the west, the north, and the east, invading the Canary Islands, Western and Central Europe, Great Britain, France, Switzerland, and Southern Russia.

The Racial Names of the Mediterranean Family.— The racial names of the primitive peoples of the Mediterranean may be reduced to four, each of them comprising more or less numerous divisions and subdivisions, owing to migrations as well as the influence of chiefs or geographical position. These four names correspond to the four great branches of the family which in various ways and through long ages have remixed, fought as enemies, immigrated or emigrated at different periods and by new roads or old roads, to escape destruction or to seek better means of existence. By separating, the various branches and

their divisions acquired special characters, as happens by segregation in the animal and vegetable kingdoms generally, becoming variations of the primitive stock in language, customs, and civilisation, only preserving the chief common characters, and among these the physical characters of the family invariably persist for ages.

These four primitive racial names live in history and as geographical names, though the peoples and their civilisation have changed; by this means alone we can find the traces of the invaders and immigrants in the Mediterranean and their various primitive seats; this fact is at the same time an indication that the branches of the Mediterranean family were not exiles or small tribes, and only for a brief period the conquerors of the great basin, for they must have been numerous and powerful to survive all the changes and struggles of these peoples through long millenniums.

The Iberians gave its name to the great peninsula of the south-west of Europe, Spain with Portugal; the Ligurians under various names occupied various parts of Italy, joining the Iberians through southern France; the Pelasgians occupied the peninsula and islands of Greece, passed into Italy at different periods, and were diffused through Asia Minor under the obscure names of Khatti, Hethei, Chittim, Hittites; finally, the Libyans occupied northern Africa under various names, of which the most glorious was that of Egyptians.

In the vicissitudes of ages, re-minglings and struggles, invasions and dominations, caused some peoples and regions to change their names while others remained unchanged: Greece was old Pelasgia, the

land of the Khatti became Phœnicia, Italy assumed the historical name which it has borne unchanged for many thousand years, Africa was sub-divided among various nations. The stock became more mixed, without doubt, but unchanged in the main in racial composition; new and foreign elements were indeed added, but these never disturbed, nor do they now disturb, the primitive character of the Mediterranean race which constitutes a distinct stock in itself with its own very marked characters, not to be confounded with those of any other European or Asiatic stock; it is morphologically the finest brunet race which has appeared in Europe, is derived neither from the black nor white peoples, but constitutes an autonomous stock in the human family.

Method of the Investigation.—Before seeking the origin of the various branches of the Mediterranean family, and their centre of movement and diffusion, I propose to pass them in brief review. Our investigation will have an anthropological character which may even seem exclusive, since we shall not take account of the various civilisations and their different epochs among Mediterranean peoples. It is not so, however; without the aid of the history of civilisation, of traditions, of geography, without the aid of the marvellous discoveries of ancient monuments in the Mediterranean basin, and without the wealth of objects disinterred in Egypt, Mycenæ, Tiryns, Troy, Crete, Cyprus, Sardinia, Sicily, Spain, there would be much greater obscurity in Mediterranean anthropology; it would be impossible to find a solution of the problem, still less a synthetic reconstruction such as I am about to attempt. Thus we need to study the primitive civilisation of the Mediterranean in

order to re-compose the great human nucleus which appeared there at an unknown distance of time and still remains unchanged, for the greater part, in its composition, in spite of new foreign elements which have penetrated from many sides and in different epochs.

A doubt may, however, assail us when we attempt an anthropological solution of this intricate problem, and that is lest the learned, archæologists or historians, should feel no faith in any attempt of anthropology to resolve the problems of history or of past races. The lack of results which has led to this scepticism does not, however, lie in anthropology, but in a bad method; with a rational and natural method we cannot fail of result. A method which is only in appearance a method inevitably leads to errors and can produce no results; if the archæologists have had no faith in anthropology they have been justified.

A celebrated anthropologist, when measuring the heads of the mummies of the Pharaohs, preserved in the Pyramids, wrote that the Egyptians belonged to the white race. His statement meant nothing; we could construct a syllogism showing that the Egyptians are Germans, since the latter also are fair. De Quatrefages classified the Abyssinians among the white races; but if they are black, how can they be white? If I had followed the old and irrational method hitherto followed by anthropologists, I could not have ascertained the affinities among the various Mediterranean peoples which have enabled me to attempt a reconstruction which is the result of a systematic analysis in every direction.

Ever since I have been able to show that anthro-

pological method should not be different from zoological method, I have chiefly turned my attention to the morphology of the skull as revealing those internal physical characters of human stocks which remain constant through long ages and at far remote spots. As a zoologist can recognise the character of an animal species or variety belonging to any region of the globe or any period of time, so also should an anthropologist if he follows the same method of investigating the morphological characters of the skull. This method has guided me in my investigations into the present problem, and has given me unexpected results which were often afterwards confirmed by archæology or history. It may therefore be easily understood how much help anthropology may bring to the other investigations concerning the origin and paths of civilisation, and I trust that it will gain a confidence which it has not always possessed hitherto.

I have followed the various peoples with their racial names in ancient and modern history; I have examined when possible the ancient and modern skulls belonging to each branch of the races in question, and I have met with a fact that is at once surprising and curious, and that is that there exist about a dozen cranial forms, by me termed varieties, common alike to all the peoples called Iberian, Ligurian, the central Italic as well as the southern and insular Italic region, the Greek peoples, Asia Minor, ancient Egypt, and all northern Africa now occupied by the Berbers and Kabyles. Other cranial varieties with less numerous characters are also found in these regions mixed with the first-mentioned varieties; they appear to be foreign racial elements

that have mingled with the other throughout the Mediterranean basin.

I have been able to follow and compare these cranial forms from the Iberian peninsula of neolithic times to prehistoric Liguria, from Etruria to Latium and neolithic Sicily, from Greece to the Troad and Hissarlik, in graves of the Mycenæan period in Crete; I have compared these with ancient series from Egypt and Tunis, and I have found the same forms and varieties with their subordinate forms still predominant. This analysis, carried out by a uniform method, has revealed another important point, and that is that the ancient cranial forms invariably resemble the modern forms of the same regions, except that some foreign element has become intermingled. Persistence of physical characters through long ages and vicissitudes is thus proved; without such constancy science would be helpless. The same fact leads to a result which may seem unexpected, and that is that from its origin the Mediterranean stock has not changed; in spite of foreign invasions the racial composition remains the same; the new elements have not been able to disintegrate it nor to alter its general physiognomy.

The cranial morphology of the Mediterranean family in its four chief branches—Iberians, Ligurians, Pelasgians, Libyans — and their minor disjoined branches, possesses special characters, clearly distinct from that of the peoples of the centre and east of Europe; my analyses and the nomenclature I have adopted for cranial forms enable us to recognise them in whatever part of the world we may meet them, so special and easily distinguishable are their characters. Among these forms the pentagonoid, the

ovoid, and the ellipsoid come first, while others, such as the platycephalic and the cuneiform, are less numerous.[1] I am able to affirm that these characters are not found among the Celtic, Germanic, Finnic, or other populations, and any one who is accustomed to such analysis may easily recognise any foreign or adventitious element which may have penetrated into the Mediterranean from the north or the east.

Another phenomenon, however, is revealed by the analysis of the cranial forms of the various branches of this great family, and that is that these varieties are differently mingled in the composition of a nation, which thus receives a different physiognomy, according as some forms are more numerous and prominent than others. There is thus an appearance of diversity which is almost or quite absent when we consider the whole family.[2]

[1] For a description of these and other cranial types see Sergi, *Specie e Varietà Umane*, Bocca, Turin, 1900, chaps. iv. and v.

[2] Cf. Sergi, *Africa: Antropologia della stirpe camitica*, Turin, 1897, as regards the methods and results referred to above; also *Arii e Italici: Attorno all' Italia preistorica*, Turin, 1898, for many related facts.

CHAPTER III.

THE CENTRE OF DIFFUSION OF THE MEDITERRANEAN FAMILY.

The Cradle of the Mediterranean Stock—The Hamites.

The Cradle of the Mediterranean Stock.— I owe it chiefly to my craniological method that I have been able to see the characteristic resemblances and differences among this chaos of peoples, formed from the most ancient times, and re-mingled with each other and with foreign elements. No pre-conception has influenced me in attempting to re-unite in one synthesis the analytic elements of my researches; it has come naturally as the result of previously established facts which were themselves a revelation, as I studied in succession the peoples of the Mediterranean and their physical characters, especially the forms of the skull and face. The ancient skulls of continental and insular Italy, and the persistence of their forms in the modern population, wherever it has been preserved, the skulls of the Iberian peninsula, of Greece, of ancient Egypt, then those of the rest of northern Africa and of the Canary Islands, all revealed by their constant uniformity, and the uninterrupted succession of the same forms, that they must necessarily belong to a single original stock.

But that original stock could not have its cradle in the basin of the Mediterranean, a basin more fitted

for the confluence of peoples and for their active development; the cradle whence they dispersed in many directions was more probably in Africa. The study of the fauna and flora of the Mediterranean exhibits the same phenomenon and becomes another argument in favour of the African origin of the Mediterranean peoples.

To-day, however, some years after I first reached this conviction, a confirmation, almost unexpected, has come from prehistoric archæology and related studies, as I shall show in the sequel when discussing the primitive civilisations of the Mediterranean stock. For the present, keeping within the domain of physical anthropology, we shall find confirmation and demonstration in an almost complete study of certain African populations occupying an extended area and possessing marked homogeneity in skeletal characters, to a less extent also in external characters, as well as in the languages formerly and still spoken. I refer to the populations which pass under the old name of Hamitic, chiefly on account of the linguistic characters which have contributed to classify and group them in a single stock.

The Hamites.—As I have said, many of the peoples called Hamitic still preserve their ancient language in a more or less altered form; among these may be included the inhabitants of the Sahara, the Berbers of every type and every region, while many others have wholly or partially lost their language, like the Egyptians, the Wahuma, the Masai. But they still show the physical character of their stock in spite of the incongruous and hybrid forms which have resulted. These physical characters—I mean the fundamental skeletal, and especially cranial and

facial characters—are common to the populations of the Mediterranean; so that it may be said that the area of the so-called Hamitic stock extends from 10° north latitude towards the west, and from 8° south latitude towards the east, throughout the Mediterranean. We shall see, however, that it is not confined to this basis, but has extended into Europe at the north.

I divide the Hamites of Africa into two great branches, an eastern branch in the north-east of the continent, and a northern one in the north-west.

I. Eastern Branch:—

1. Ancient and modern Egyptians (Copts, Fellaheen), excluding the Arabs.
2. Nubians, Bejas.
3. Abyssinians.
4. Gallas, Danakil, Somalis.
5. Masai.
6. Wahuma or Watusi.

II. Northern Branch:—

1. Berbers of Mediterranean, Atlantic, and Sahara.
2. Tebus or Tubus.
3. Fulahs or Fulbés.
4. Guanches of the Canaries.[1]

Of these populations the Egyptians are still Mediterranean, and the Berbers Mediterranean and in part Atlantic; the name "Berber," which is recent, corresponds, in great part at least, to the ancient "Libyan," and is the name which I shall here adopt.

Now the convergence of physical characters in all

[1] See Sergi, *Africa*, *op. cit.*

these populations, while it leads us to regard them as forming a single human stock, also suggests that their origin must be found in Africa. In the Italian edition of this work I had placed the centre of origin and diffusion of this stock in East Africa in the region of the great lakes, near the sources of the Nile, and including Somaliland. Many arguments led me to that conclusion, especially the very ancient existence of a population which in the Egyptian monuments is recorded as giving origin to their race, the Punti, and whose physical characters resemble and are often identical with those of the Egyptians; also the discovery of flint implements resembling those of palæolithic age in Europe, and the existence of unexplored tumuli in the territories of the Dinkas and the Somalis.

The flint implements of palæolithic type have been found by Révoil, Jousseanne, Seton-Karr,[1] and others. Seton-Karr believes that the stone implements of Somaliland are scattered over the whole region, but probably mostly beneath the present surface, in a region bounded approximately by the Red Sea and lat. 9° 30′ N., and between long. 44° and 45° E. The same explorer gives some indication as to the relation that these implements bear to the soil and the geological features of the country.

Little is yet known of the tumuli of which Révoil has given various drawings. Bottago also saw some of these, and was told that they were the work of Galla tribes, to which statement he objects that no

[1] Cf. Sergi, *Africa*, pp. 175, 193, 197; Seton-Karr, "Discovery of Evidences of the Palæolithic Stone Age in Somaliland," *Jour. Anth. Inst.*, 1896, p. 271; and for criticisms on some points by Dr. H. O. Forbes, see *Nature*, 19th April 1900.

such constructions are seen in the country of the Gallas.

In North Africa and Sahara also very numerous flint arrow-heads and fragments of worked flint have been found, a certain proof of the existence of a large population.[1] The idea has thus arisen that Sahara rather than Eastern Africa was the original home of the populations which have occupied the Mediterranean basin and Hamitic Africa, or Africa north of the Sudan.[2]

It appears to me now, however, that to establish absolutely the place of origin of a human stock is neither an easy nor safe task; we can only indicate approximately, in the present case, the most probable region of Africa. If it seems to me most reasonable to look to the region of the great lakes, it is because that region is most favourable to human existence, and if similar conditions were also to be found in the Sahara at the Quaternary epoch, I will not deny to that district also the possibility of being the cradle of the human species which has had so large a part in the destinies of the world.

At this point I must defend my opinion against an inaccurate interpretation of it by the eminent French anthropologist, Zaborowski, who has attributed to me the statement that the Egyptians are diffused through Asia Minor, Southern Russia, and elsewhere.[3] My statement is that a human stock, neither Egyptian nor Iberian, nor Pelasgic, nor Ligurian, has

[1] Tissot, *Géographie Comparée de la province romaine d'Afrique*, Paris, Tome I., 1884, p. 398; Bourde, *La France au Sudan*, p. 399.

[2] Keane, *Man Past and Present*, Cambridge, 1899, pp. 450 *et seq.*

[3] "Du Dniestre à la Caspienne," *Bull. Soc. d'Anth. de Paris*, 1896, pp. 81 *et seq.*

shown itself in successive emigrations and in various directions, and has formed the four peoples at a later date designated by the names Egyptian, Libyan, Iberian, Pelasgic, and Ligurian, with their successive later sub-divisions bearing new racial names. I could not imagine that the Egyptians of history, so rich in civilisation, had carried a prehistoric civilisation into southern Russia, as Zaborowski makes me say, since, as he himself now admits, I supposed that it was the ancestors of the Libyans, Iberians, Egyptians, and Pelasgians who had peopled the various regions of the Mediterranean, including Asia Minor, and then also southern Russia.

But I also supposed—and the supposition has now been confirmed by discoveries in Egypt—that the Egyptians were a branch of the Libyans, and thus I extended the name of Libyan to all the African populations of northern Africa, from Egypt to Morocco, including those of the Sahara. The Egyptians would thus be a detached branch of the primitive Libyans, an opinion very far removed from the belief, attributed to me, that the Egyptians went to Russia. Concerning the anthropological evidence for the wide diffusion of the African stock there will be more to say when I deal in turn with each people, or fraction of a people, possessing recognisable physical characters.[1]

[1] For an exact interpretation of my opinions see A. J. Evans, "The Eastern Question in Anthropology," Presidential Address in Anthropological Section, British Association, Liverpool, 1896 (*Nature*, 1st Oct. 1896).

CHAPTER IV.

THE LIBYANS.

Libyans on Egyptian Monuments—The Evidence of Herodotus and other Classic Writers—The Berbers—Origin of the Libyans—The Myth of Atlantis—The African Blonds—Physical Characters of the Libyans.

Libyans on Egyptian Monuments.—On the Egyptian monuments we find a few vague references to the Libyans, fewer and more indefinite than those regarding the Hamitic and other peoples in the south of Egypt. Brugsch, in the ethnographic lists of ancient Egypt, found the Psylli in the Pit with light red-coloured skin and black hair falling in tresses, the beard also being black; and the Asbytæ in the Sopet at the west of the modern oasis of Farafrah with light red-coloured skin and red beard and hair.[1] Asbytæ and Psylli should be regarded as two portions of the Libyan family, as may be concluded from later information derived from other sources; the names of Lebu and Tehenu or Tamahu are recorded more often on the monuments, and seem to represent the Libyans of geographers and historians. On the maps, however, the Tehenu and the Lebu appear as two peoples, the first near Egypt, the second more to the west.

It is important to observe the pictorial representa-

[1] *Die Altägyptische Volkertafel*, p. 74.

tion from which it has been concluded that the Lebu and the Tehenu were a white race with blue eyes and fair hair like the Germans. It is true that on Egyptian monuments the Tehenu are painted with skin of a bright red, and red or yellow beard and blue eyes; but we also find that many personages are depicted with red as well as green eyes, though there is no reason to suspect that the races to which they belonged possessed an iris of either colour.[1] Rosellini, in his Plate CLVIII., shows us a group of persons with yellow skin, black hair and beards, and green eyes, and another with pale rose skin, black hair, and red eyes; in Plate CLIX. a group with yellow skin, yellowish beard and blue eyes, and again a group of three individuals of whom the middle individual shows a brick-red, Egyptian complexion, and blue eyes. It is unnecessary to prove that these combinations do not indicate racial varieties.

Müller observes, with reference to the Tehenu, that they bear a name which is commonly interpreted as meaning light-coloured, but that there can be no doubt that the root *Thn* only signifies "brilliant" and not white.[2] We must not forget that the Asbytæ and Psylli, already referred to, are represented with a fair skin and black beard and hair. It is certainly an important question as regards the origin of the Libyan populations, the more so as to-day we find a blond element among the Berbers of the north coast and Morocco, and it is claimed that they furnish the primitive type of the Libyans represented in Egyptian pictures.

The Evidence of Herodotus and other Classic

[1] See Sergi, *Africa*, cap. ii.

[2] *Asien und Europa*, p. 14.

Writers.—The most ancient ethnographic observations, after the Egyptian, are those furnished by Herodotus, who by Libya generally meant Africa outside Egypt, which he regarded as the natural frontier between Asia and Libya, making it as it were a distinct continent by itself,[1] notwithstanding the opinion of Vivien de Saint-Martin, who believed that Herodotus placed the borders of Libya at Mount Casius, near the isthmus of Suez,[2] where he simply placed the eastern border of Egypt.[3] Herodotus also gives a more restricted meaning to Libya, distinguishing it from Ethiopia, as may be gathered from various passages and from his ethnographic division of the populations. His clearest indications, which he obtained in Egypt itself on the occasion of his visit, as well as from other travellers and navigators to the Libyan coasts, are those concerning the tribes of the sea-board; but he also knew something of the tribes of the interior, beginning with the oasis of Ammon. I need not discuss the accuracy or inaccuracy of the itineraries described by Herodotus, nor the geographical position of the places mentioned; I have only to occupy myself with the ethnography.[4]

Herodotus knew the desert of Libya and many of its oases, and he speaks in various places of that of Ammon and its inhabitants, whom he believes to be a mixed people of Egyptian and Ethiopian origin, with a language that partakes of those of both races; he knows also Augila, a date-bearing country where the Nasamones go to gather dates.

[1] Book II., cap. xvii.

[2] *Le Nord de l'Afrique*, pp. 29-30.

[3] Book II., 158.

[4] Cf. Vivien de Saint-Martin, *op. cit.*, for a discussion of various geographical questions in Herodotus.

Herodotus also enumerates the tribes he found on the western borders of Egypt. The first of these are the Adyrmachidæ, who have the same customs as the Egyptians, except that they dress like other Libyans; then come the Giligammæ, who inhabit the country to the west as far as the island of Aphrodisais; then the Asbytæ, who dwell above Cyrene, in the interior. The Auschisæ come next to the Asbytæ on the west, above Barce, and extend as far as the Hesperides. In the same region are found the Cabales, a people small in number, who extend along the sea-coast towards Tauchira, in the district of Barce. The Nasamones, a large tribe, are to the west of the Auschisæ, and leave their flocks in summer to gather dates.

The Psylli are neighbours of the Nasamones, but having perished on account of the extraordinary barrenness of the country, the latter have occupied their territory. To the south, beyond the Nasamones and the Psylli, in a district where wild beasts are found, live the Garamantes, who avoid intercourse with other peoples; they have no weapons, and cannot defend themselves. Vivien de Saint-Martin remarks, concerning the Garamantes, that Herodotus elsewhere says of this people that they are ten days' journey distant from Augila, and that they fight against the Ethiopians, using chariots with four horses. They would thus be two different peoples. The neighbours of the Garamantes on the sea towards the west were the Macæ, then the Gindanes, and to the south of these the Lotophagi, who, along the sea, border on the Machlyes, closely resembling them in customs and extending to the river Triton, which falls into the Lake Tritonis. The Ausenses, on the opposite

side of the river, also dwell on Lake Tritonis; to the north are the Maxyes, the Zaveces, and the Gizantes or Zygantes.

Beyond this region Herodotus knows little or nothing definite; he has heard that ten days' journey beyond the Garamantes, in the interior of Libya, there is a mountain of salt and a spring where the inhabitants are called Atarantes; and that ten days' journey beyond this begin the Atlas Mountains, which extend as far as the Pillars of Hercules; the people dwelling there he calls Atlantes.[1]

At this point Herodotus ends his enumeration of Libyan tribes, among which he further distinguishes between those that are nomadic and those that are sedentary and agricultural. "From Egypt as far as Lake Tritonis the Libyans lead a pastoral life, living on flesh and milk. The Libyans to the west of Lake Tritonis are not shepherds."[2] This is only true in a relative sense, remarks Saint-Martin. It is certain that between Egypt and the Syrtes the naturally bare and arid soil is more adapted to a pastoral and nomad life, while between the Syrtes and the Pillars of Hercules it is more suited to cultivation; but Herodotus was wrong in believing that to the west of Tritonis, in a land considered by Greeks and Romans as above all a country of nomads and shepherds, no nomads were to be found.[3]

The *Periplus* of Scilax only records four Libyan populations: the Marmarides, from Egypt to the Hesperides; the Nasamones, from that spot to the great Syrtes; the Macæ, on the coast of the same

[1] IV., 184.
[2] Herodotus, IV., caps. 186-187.
[3] *Op. cit.*, pp. 60-61.

gulf towards the west; and the Lotophagi, as far as the lesser Syrtes.[1] Diodorus Siculus speaks, in reference to the expedition of Agathocles, of three Libyan tribes, the Micatani and Zufoni, who are nomads, and the Asfodelodi, who by the colour of their skin resemble the Ethiopians.[2]

The Roman wars in Africa extended the knowledge of Libyan tribes, and gave to various populations their racial names. The *Afri* appeared in the district of Carthage, called *Africa;* the *Numidi*, which is apparently a translation of the Greek *Nomades;* the *Mauri*, who gave their name to Mauritania, called also *Maurusi* by the Greeks.[3] The expedition of Suetonius Paulinus to the south of the Atlas enables us to know the Getuli;[4] that of Cornelius Balbus to Fezzan[5] and the expeditions of Septimius Flaccus and of Julius Maternus to the south of Fezzan, as far as the country of Agisimba, carry us to the centre of Africa.[6]

To identify regions and the populations inhabiting them from the data of ancient writers and those of modern explorers is not easy, nor always fruitful; because the notices of Greek and Latin writers have reached us in a fragmentary and imperfect form, or in brief summaries like those of Pliny, and because racial and geographic names have undergone complete transformation, especially as a consequence of the Arab invasions.[7]

[1] Scilax, *Periplus*, 108-110.

[2] XX., 38, 57; XXVI., 27.

[3] Mela, i. 4; Sallust, *Jug.* xix.; Pliny, *Nat. Hist.*, v. 1, 2; Strabo, xvii., iii. 2. [4] Pliny, v. 1. [5] Pliny, v. 5.

[6] Ptolemy, *Geogr.*, Proleg. viii.

[7] Full and valuable notes and elucidations may be found in Vivien de Saint-Martin, *op. cit.*; also in Carette, "Recherches sur l'origine et les

In speaking of the extreme limits reached by the Romans in Africa, we must discuss the expedition of Septimius Flaccus and Julius Maternus to the south of Fezzan. The record of this expedition is furnished by Marinus as quoted by Ptolemy: "Septimius Flaccus, moving with an army from Libya against the Ethiopians, arrived in three months, after leaving the Garamantes towards the south." "Julius Maternus, having left Leptis Magna and Garama, and joined with the king of the Garamantes, marched towards the south against the Ethiopians, and after four months arrived at Agisimba of the Ethiopians, where rhinoceroses are found."[1] I will not repeat the details of journeys and distances given by Ptolemy and other writers, but I think we may accept the opinion of Saint-Martin, who places Agisimba towards 16° and 18° N.L. in the oasis of Asben.[2] Nor must I omit to mention that in the oasis of Atarantes, of which Herodotus speaks, Barth believes that we may recognise one of the oases of Asben; he connects the name Atarantes with *Atara*, in the Haussa language, which means *reunite* and signifies population (*Volksgemeinde*). It is true, he adds, that no mine is to be found in the mountain of Asben, but we find instead the salt deposits of Bilma, with an antiquity of some two thousand three hundred years, which must have been utilised in these regions.[3]

Both references show that the interior of Africa

migrations des principales tribus de l'Afrique septentrionale," *Exploration scientifique de l'Algérie*, Paris, 1853, tome iii.; and Tissot, "Géographie comparée de la province romaine d'Afrique," *Explor. scientifique de la Tunisie*, Paris, 1884, tome i.

[1] Ptolemy, *Geogr.*, *loc. cit.*

[2] *Op. cit.*, pp. 215-223.

[3] *Sammlung Centralafrikanischer Vocabularien*, Part I., p. cii.

was by no means unknown either to the Egyptians, who carried on commerce there with caravans, or to the Romans who penetrated thither with their armies. Unfortunately, concerning the Roman expedition into Central Africa we possess no definite knowledge; it would have furnished us with information of great historical value as to the populations of these regions.

Herodotus, while affirming that the Libyans are numerous and of various stocks,[1] concludes, after enumerating the tribes and population of the coast and interior, by saying that the races (*ethnea*) in all Libya may be reduced to four, two of these being indigenous and two foreign. The Ethiopians and the Libyans are the indigenous races, the first dwelling to the south, the second to the north; the Phœnicians and Greeks are the foreign races.[2] The word *ethnos* is used by Herodotus in two senses, the one general, the other more restricted, just as we use the word "race" in an ambiguous manner. Thus Libya has a generic significance for the whole African continent, and a particular significance for the region inhabited by the Libyans proper; the Ethiopians are the black stock. What physical characters the Libyans possessed we are not told by the Greek historian. Scilax, among the ancients, mentions fair Libyans, and at a later date Procopius speaks of a population with white skin and fair hair. It seems that Callimachus also noted the fair Libyan women among the inhabitants of Cyrenaica. In the interior of Libya, besides the Garamantes and the Getuli, there were also, according to Ptolemy, the Melano-Getuli or black Getuli; this is another vague expression concerning a physical character of the Libyan

[1] IV., 167. [2] IV., 197.

population. It must be inferred, as a negative conclusion, that the Libyan populations of the coast and many of the interior were fair in the generic sense of the word, since we do not find any special indication of this character, as we do by accident for the fair element, and more definitely for the black complexion of the more southern Getuli.

The language of these Libyan peoples was "profoundly distinct from the Semitic languages, though having traits of resemblance to them."[1] They also possessed a method of writing which constituted what was called the Libyan alphabet. It may be recognised in the Berber hills of the Ahaggar, and with a few slight modifications it is the same as that still used by the Tuaregs. It may be reconstituted from knowledge of the Targu alphabet in the bilingual inscriptions of Thugga.[2] The Berber alphabet is substantially identical with the Libyan.[3]

The geographical and racial names of Libya changed; Libya became Africa; the coast population lost the names by which they were known to Herodotus and the geographers who followed him; the names of Cyrenaica and Africa appeared for Carthaginian territory, of Numidia, of Mauritania, and hence the Afri, the Numidi, the Mauri. Nor did the changes cease at this point; to the general name of Libyans succeeded that of Berbers, which to-day is being lost, to give place to other names, such, for instance, as Schellachs or the Shluh. Geographers and ethnographers have disputed concerning the

[1] Renan, "La Société Berbère," *Revue des Deux Mondes*, 1873.

[2] Tissot, *Géographie comparée*, etc., p. 517.

[3] Tissot, *op. cit.*, pp. 518 *et seq.*; cf. the following chapter on the Egyptians.

origins of these various successive names which have designated the regions and inhabitants of Africa. Libya, it is said, came from the name of a tribe, Luba or Lowata, pronounced Levata or Lebata, and changed by the Greek colonists of Cyrene in their own language into *Libyes* or *Libya*.[1] Hence the generalisation of the name Libya to the region known to the Greeks, and to the populations distinct from the Ethiopians.

The name of Africa was restricted to the territory of Carthage; the Romans eventually used it to designate all the Libyan regions, and to-day it serves to indicate the whole of the vast continent. Concerning the origin of the word Africa many opinions have been expressed, and it is possible that, like Libya, it may also be derived from the name of a tribe.[2]

The Berbers.—Berber is the name still used to-day to designate the Libyans of northern Africa and the Sahara, as well as of western Morocco. The primitive and etymological significance of this name is disputed. *Berber* may be the same as *Barbar*, a general designation for the great region of the Somalis, *Barbaria*, and identical with Barabra Nubians, and hence without the evil significance wrongly attributed to the Greek and Roman names. It may have indicated a stock with fairly similar linguistic characters.[3] Carette and Saint-Martin find in the names *Barbars*, *Sabarbares*, *Sabarbures*, the special designation of a number of fractions of the indi-

[1] Saint-Martin, *op. cit.*, p. 150.

[2] Saint-Martin, *op. cit.*, pp. 150 *et seq.*; Carette, *op. cit.*, p. 306; Tissot, *op. cit.*, pp. 389 *et seq.*

[3] Saint-Martin, *op. cit.*, *passim.*

genous stock of Africa, and not a Greek or Roman designation. The Romans confused the racial names which they found among the natives with their own word *Barbari*.[1] Carette believes that the Arab invaders, who experienced the first serious resistance to their arms among the Berbers of Sus, extended that name to all the natives of northern Africa. He considers it probable that in antiquity the name *Barbari*, and that of *Berber* of Okba, whence are derived *Barbaria* and *Barbary*, were at first applied only to one people, and that the Arabs, preoccupied by the resistance they experienced from that savage and idolatrous people, generalised the term. "However that may be," he concludes, "the name Berber was substituted for Libyan at the Mussulman conquest, and Arab geographers term *Belad-el-Berber* or *Berberia* the whole of northern Africa comprised between Barca and the Atlantic, that is to say, ancient Libya."[2]

Tissot accepts Carette's opinion for the most part, but it does not seem to him probable that the Arabs gave as a general name for all the Libyan populations a term which they had found in mid course of their invasion. He thinks it more likely that they met with the name at the very threshold of Africa, that is to say in Egypt.[3]

Libyans or Berbers, we to-day understand by these general names no longer a tribe but a race, as many would describe it, a branch of the Hamitic stock, as is indicated by the language which remains unchanged after so many changes and invasions by Greeks, Phœnicians, Romans, Vandals, and, more

[1] Saint-Martin, *op. cit.*, p. 80; Carette, *op. cit.*, pp. 13 *et seq.*
[2] *Op. cit.*, pp. 16-17. [3] *Op. cit.*, p. 397.

numerous than any, Arabs. But even the name Berber has died out; there only remain various divisions of the same Berber or Libyan family, with national names, assumed for different purposes. It seems that, in Morocco especially, for the name Berbers is substituted Scellachs, distinguished from the Arab invaders, the Negroes, and the mixed population inhabiting the Libyan region.

Origin of the Libyans.—If we recall the linguistic classification of Lepsius we find that the second branch of the Hamitic tongues is the Libyan, variously subdivided; from the linguistic point of view, therefore, the Libyans belong to the Hamitic stock, and it would seem easy to infer that they are racially related to the Egyptian and other eastern Hamites. It cannot be supposed that they are of different origin from the Hamites, and learned their language through having been subjugated by them at some ancient epoch, for there is no reason to suppose that the Egyptians ever conquered that great African region which was and is occupied by the Libyans. Egyptian dominion over the Libyans of the Mediterranean was limited to the most eastern tribes, and even then seems to have been only temporary. With the tribes of the interior the Egyptians had commercial relationship, but no rule over them, and we know clearly the western limits of the dominion of the Pharaohs. The Libyan tongue, so widely spoken from the western borders of Egypt to the Atlantic, and from the Mediterranean to the Sahara, is the original speech of that Hamitic branch, and not imported.

Libyan writing is also different from historical Egyptian writing; whatever may be the origin of

that writing, it seems to have nothing in common with that adopted by the most ancient highly civilised people of the Mediterranean. This fact supports the evidence in favour of the language not being imported.

Though many hypotheses have been advanced as to the origin of the Libyans, no traditions exist, if we except one transmitted to us by Sallust, and gathered from a history by Hiempsal, King of Numidia. "Originally," writes Sallust, "Africa was inhabited by the Getuli and the Libyans, rough and uncivilised peoples, who lived on the flesh of wild animals and on grass like the beasts. They were not ruled either by custom or by law, or by any authority; they were wanderers, resting wherever darkness surprised them. But the Africans narrate that when Hercules died in Spain, his army, composed of various peoples, having lost its leader and many desiring the command, dispersed. There were there Medes, Persians, and Armenians, who, embarking in ships, occupied the maritime territory. The Persians went near the ocean, and for dwellings made use of their overturned ships, since they could not find materials in the fields, nor were able to buy or barter them from Spain; the sea and ignorance of the language impeded commerce. They mingled slowly with the Getuli by marriage, and since they often changed their settlements, were called Numidi." Hiempsal proceeded to describe how these invaders obtained honour and glory by subjugating the native Libyans.[1] Much has been written concerning this passage in Sallust, but it seems to me to teach us nothing but the national vanity of the Numidian writer Hiempsal, who desires us to accept the lofty origin of his Numidian fellow-

[1] *Jugurtha*, xvii., xviii.

countrymen. The problem as to the origin of the Libyans and the Getuli remains unsolved, and we only know that they were the first indigenous populations. The story of the Medes, Persians, and Armenians in Spain with Hercules remains merely a legend.

The Myth of Atlantis.—Not less legendary, it seems to me, is the myth of the Atlantides, that great island in the Atlantic, now vanished, from which the first inhabitants of North Africa are said to have come. If the existence of Atlantis is not contradicted by geology, even if it has been considered necessary, in order to explain certain geological features of Spain and of the west and north coasts of Africa, its existence must still be placed anterior to the quaternary epoch, when at earliest we could fix the origin of the African population.[1]

D'Arbois de Jubainville, who believes that tradition shows Iberian influence from Great Britain to Egypt, and who finds Iberians everywhere—in Italy, on the Rhine, in North Africa—seeks the origin of the Iberians in this same submerged Atlantis.[2] I do not understand why it is necessary to search for the origin of the Libyans in a vanished island when there are ample proofs of the relationship of the Libyans to the other Hamites; apart from other evidence, their language also in its fundamental elements is in common. From the west, beyond the Pillars of Hercules, to the east of Africa, the evidence is in favour of the African origin; in the east the living historical elements are preserved, and we find wide

[1] Cf. the arguments for the existence of Atlantis in the Appendix to Tissot, *La Province Romaine d'Afrique*, pp. 665 *et seq.*

[2] *Les Premiers Habitants d'Europe*, Paris, 2nd ed., 1889, pp. 24-25; and see Hartmann, *Die Nigritier*, pp. 274 *et seq.*

diffusion in every direction; in the west we only find an expanse of ocean and the Fortunate Islands, the possible relic of a continent submerged long before any human stock could people it. The Canary Islands even reveal their African origin in their plants and their animals as well as in their human population.

The African Blonds.—The problem of the origin of the Libyans is intimately related with the existence of the blond element found in Tunis, Algeria, and Morocco, and with the great series of megalithic monuments scattered over northern and western Africa wherever the Berber population exists. On the ground of climate, it has been thought impossible that the blond racial elements could be of African origin; the land of the blonds is the north, never the south—such seemed to be the most acceptable opinion. The megalithic monuments, found not only in Tunis and Algeria, but in Morocco and other parts of Northern Africa, are of the same character as those found in Europe—Spain and Portugal, the west of France especially, Great Britain, Denmark—as well as in many islands of the Mediterranean.

These two facts, thus indicating a convergence of African and European origins, have led to the suggestion that we must seek the origin of the Libyans and their civilisation, at all events as regards the megalithic monuments, in Europe rather than in Africa. According to an ancient opinion, perhaps the earliest, the blonds of the Atlantic region were due to the invasion of the Vandals, afterwards conquered by Belisarius.[1]

[1] Bertrand believes that a dolmen race has made the circuit of the world, passing through Europe and Africa and everywhere leaving behind it monuments that are identical in form. (*De la Distribution des Dolmens à la surface de la France*, Paris, 1860.)

It certainly seems to be proved that the existence of the blonds in North Africa is of very ancient date, much anterior to the invasion of the Vandals. From various monuments it appears that the Egyptians knew them, having come into conflict with them. For the earlier theory, therefore, another was substituted, according to which a blond race, having traversed Europe, crossed the Straits of Gibraltar, and entering Africa mingled with the indigenous brunet element, which, perhaps arising in the Sahara, had proceeded northwards. French ethnologists and anthropologists of eminence supported this view, and it may be well to examine it.

General Faidherbe, who in various writings has occupied himself with the ethnology and anthropology of Libya, summarising his views regarding Algeria, writes:—"In the region with which we are occupied, we find to-day beside the elements—Arab, Negro, European—whose origin we know, another element, still more numerous, which forms about three-quarters of the total population (nine millions out of twelve million souls), speaking a dialect of the same language called Berber, or having abandoned that language for Arabic within the past thousand years. This fact dominates the problem: the language which extends from Egypt to the Atlantic, including the Canaries, where the ancient names of places and populations are Berber, and from the Mediterranean to the Sahara, indicates one people, one race. Those who speak the language resemble physically, in general, the Egyptian natives, though less brown, as well as certain populations of the same latitudes in Arabia and neighbouring Asiatic countries; they have a bilious tint and black hair and eyes. We have no historical data concern-

ing the origin of this people identified with the Berber language, just as we have none also for the Egyptians, but its existence is indicated by the Egyptian annals of about 6000 years ago." After recalling the two names, Lebu and Tamahu, by which the Egyptians knew the Libyans, Faidherbe passes on to the blonds. "Between one thousand and two thousand years before the Christian era a new race appeared at the west of Egypt. Already, about 1700 B.C., during the XVIIIth dynasty, the mother of Amenhotep IV. was a blond with blue eyes and rosy skin, of origin foreign to the Delta; but during the XIXth dynasty, towards 1400 B.C., there was a great invasion of nomads with blue eyes and fair hair coming from the west towards Egypt. During the reign of Seti I. the Libyans seriously attacked lower Egypt together with their allies and the Mediterranean peoples. Seti's son, Ramses II., stayed their advance, but under Menoptah, the son of Ramses II., the invasion became formidable, and the most terrible of the invaders were the blonds, who finally established themselves in Egypt and furnished the king with troops. Blonds in Africa, with a modern climate which is the same as that of historic times, are an anomaly. These blonds came into Africa across the Straits of Gibraltar from the land of the blonds, Northern Europe, and as evidence of their migration we find the dolmens, which extend in a continuous line from the shores of the Baltic to Tunis. These blonds from the north subjugated the native Libyans or allied themselves with them [Faidherbe here recalls Sallust's legend]; they adopted their language and were confused with them by the Egyptians under the name of Tamahu; finally they

mingled with them by crossing. Traces of them remain among nearly all the populations which speak or have spoken the Berber tongue. At certain points blonds are disseminated or agglomerated. We may call Berber the population which resulted from the mingling of the native Libyans with the northern blonds."[1]

Topinard, who followed up Faidherbe's observations on Algeria, especially occupied himself with this blond element in the Berber population, and enumerated five theories which might account for their presence. Thus they might be (1) the residue of the Vandals, as Shaw thought; or (2) mercenaries brought into Africa, especially from Gaul, by the Romans; or (3) a population from the East, dating from the expulsion of the Hyksos from Egypt; or (4) a fair race existing from time immemorial in North Africa, whence they sent an expedition towards Egypt, and also towards the north, where they constructed dolmens; or, finally (5), they may have come from the north, as Faidherbe believed.

A little later, Tissot, who resided in Morocco, while pointing out the existence of the same megalithic monuments in that region, occupied himself with the blond elements of the population and its components. He considered that the blonds formed more than a third part of the population of Morocco, as Drummond Hay had stated, and that two-thirds of the Rif colony established at Tangier were composed of individuals of blond and chestnut type, the other third of a brown type resembling the European population of the south-west of France. The Berbers

[1] "Instructions sur l'Anthropologie de l'Algérie," *Bull. Soc. Anth. Paris*, 2nd series, viii., 1873, pp. 603 *et seq.*

of northern and central Morocco have a European physiognomy, as also the independent Berbers of the south and the mountains; and their customs and habits approximate them to the French. On the heights of the Atlas chain the population is blond; many have eyes that are blue, grey, or green like a cat's. But the population on the southern slopes of the Atlas towards the Sahara are of brown type, with black eyes, and resemble the Sicilians in physiognomy. Tissot also believed he could discern a third brown type, of eastern character. Influenced, it seems to me, by racial names and the opinions of others, Tissot believed he could find the Libyans proper in two races, blond and brown, corresponding to the French: the Getuli in the brown southern race, the Numidians in the eastern type, and Melano-Getuli in the brown race crossed with Negro elements.[1]

A few years later, when compiling an important work on the comparative geography of Roman Africa, Tissot admitted the existence of an autochthonous race in the Sahara, demonstrated by the flint implements found in the desert region, and the superposition of a race coming from Europe. These two races he supposed to have fused and so formed the Libyan or Berber stock, the two racial elements still preserving their brown and blond physical characters.[2]

Broca also was of this opinion, which he maintained against that of Shaw and others.[3] De Quatrefages, on

[1] "Sur les Monuments Mégalithiques et les Populations blondes du Maroc," *Revue d'Anthropologie*, v , 1876.

[2] *Géographie comparée*, pp. 398 *et seq.*

[3] "Les Peuples blonds et les Monuments Mégalithiques dans l'Afrique septentrionale," *Rev. d'Anth.*, v., 1876.

the other hand, believed that the presence of the blond element in North Africa remained unexplained.[1]

Together with the above opinions we find others, especially those of Desor and Letourneux among the older writers, which are wholly or partly opposed to those of Faidherbe and Broca. Desor remarks that the modern inhabitants of the Atlas do not preserve the physiognomy which the Egyptians have ascribed to the Tamahu. He finds that the inhabitants of the oasis of Suf are hardly to be distinguished from Europeans, and to Martin, who accompanied Desor, some of the children looked like scholars in some Provençal or Languedocian village school. These blonds might be the residue of the primitive Tamahu. Desor asks if we ought not to reverse our search and admit an immigration of the fair race from northern Africa into Europe rather than in the reverse direction.

Letourneux, again, in a letter to Desor,[2] describes and classifies the sepulchral monuments of Eastern Algeria, and distinguishes between those of which the Berber origin is certain, those called Celtic, and those not yet classified. Regarding the first there is no doubt; as to the second he remarks that the accumulation at some spots shows that they were raised by a long series of generations, and must belong to different epochs; he can find none of the Roman age. These monuments are varied, and some have a special character. He refuses to believe that these monuments are connected with the Celts, who were not the only people who constructed dolmens.

[1] *Histoire Générale des Races Humaines*, 1889, p. 486.

[2] "Sur les Monuments funéraires de l'Algérie orientale," *Archiv für Anth.*, vol. ii.

As to whether the Berbers raised these monuments, he replies that this question brings us to the origin and establishment of the Berbers in Africa, and that examination of the bones found in these same monuments may help us to settle the question. A great step would be made if we could identify the Berbers with the blond Tamahu race recorded in Egypt. He himself believes that he has found traces of the Tamahu in place-names, such as the city of Thamugas (or rather Thamugadi), of Thamu, and so on.

At the meeting of the French Association for the Advancement of Science, held at Algiers in 1881, a discussion took place in the anthropological section concerning these megalithic monuments. Martin stated the following conclusions:—(1) The megalithic tombs of Algeria and northern Africa generally belong to the same race which erected similar monuments in Gaul and Spain. (2) The artistic inferiority of the African monuments suggests that the African cemeteries were constructed at a date anterior to the great cemeteries of the Morbihan and our chief European monuments. The Celts would thus have passed into Africa at a very remote period, immediately after the conquest of Spain, and would not have made the same progress as their fellow-countrymen in Europe. (3) Proof is wanting to show that the megalithic tombs of North Africa belong to the Tamahu, but it is probable that these were the blond Libyans spoken of by some Greek geographers, and that these blond Libyans were Celts from Spain who conquered the aborigines of North Africa.[1]

[1] Paris, 1882. Cf. Borsari, *Geografia Etnologica e Storica della Tripolitania, Cirenaica e Fezzan*, etc., Naples, 1888, pp. 11 *et seq.*

Martin's second conclusion is worthy of attention; finding the construction of the African monuments inferior to those of Europe, he argues that the Celts who remained in Europe progressed while the colonists in Africa remained savage. Would not these Celts, however, have erected some of their crude monuments in Europe before emigration? The facts only become more inexplicable with the aid of this variant of the opinion concerning the origin of the megalithic monuments and the blonds

There has, I believe, been no further discussion concerning the blonds of Africa; the phenomenon seemed so abnormal that every one has sought an explanation in accordance with his own scientific tendencies. Thus Pruner-Bey wrote:—"Admitted that there exist in Kabylia or elsewhere individuals or small groups of individuals of xanthoid character, are we authorised to establish a whole system of ethnogenesis on this single character? Are we to allow the whole melanic mass, with its well-marked skull and physical type, to be absorbed by a small fraction only differing in the colour of the hair? In short, the African Berber compared to the Negro and the Hottentot corresponds to the Finn in relation to the other circumpolar tribes in the north; he is the nearest relation to the Egyptian in every respect, and constitutes an intermediate form between the Semite and the African of the south."[1]

Hartmann is unable to accept the theories by which French ethnologists and anthropologists explain the presence of the blond element in North Africa and the megalithic monuments. With regard to the first,

[1] *Les Carthaginois en France*, p. 51; cf. Hartmann, *Die Nigritier*, p. 264.

he remarks that we must consider the quantity and quality of this blond African element, and he believes that the real blond, resembling the Teuton, does not exist there at all, what we find being reddish-brown or ash-coloured individuals (the French *cendré*), as also Pruner-Bey affirms.[1] Topinard, again, describing the characters of the Kabyles, remarks that the hair, and especially the beard, are often chestnut or reddish.[2]

The blond element does not appear to be large; among 400 Turcos at Bona five were found with fair, and twenty with chestnut hair.[3] Bertholon, among 344 individuals in the north-west of Tunis, found 2.03 per cent. with blond and red hair, 9.01 per cent. with intermediate, perhaps chestnut tints, and 88.95 dark.[4] It is true that Tissot states that in Morocco about one-third of the population is blond, but he gives no definite statistics. It is more important to note that he finds that the greater number of blonds is on the heights of the Atlas mountains, and on their northern rather than on their southern slopes. Both as regards the quantity and quality of the blond element, Hartmann, taking into consideration the physical characters of the Berbers, considers that the blond Tamahu and the reddish Magreb population must find their explanation within Africa itself.[5]

It may be as Hartmann believes, and I may add

[1] Hartmann, *op. cit.*, pp. 263-4.

[2] *Anthropologie de l'Algérie*, p. 627.

[3] Hartmann, *loc. cit.*, p. 263.

[4] "Exploration Anthropologique de la Khoumirie," *Bull. Geog. Hist. et Descript.*, 1891, No. 4; Collignon, "Répartition de la Couleur des Yeux et des Cheveux chez les Tunisiens sédentaires," *Rev. d'Anthr.*, 1888.

[5] *Loc. cit.*, p. 264.

certain considerations which tend to show that the Celtic theory of the African blonds cannot be maintained.

If we turn, as others have done in this connection, to the Egyptian monuments, we find that the customs of the Lebu and Tamahu were entirely Libyan. Their clothing and their ornaments were African, and had nothing European about them. Tissot himself states that the same customs prevail among the Amazigh of the Rif, among certain Tripoli tribes and so on.[1] On the other hand, the European allies of the Libyans, such as the Siculi, Sards, and Ionians, and also the Cypriots and Phœnicians, retained customs showing another civilisation, though still Mediterranean. Now if it is true that a European race had invaded Africa, and had thrown itself against Egypt, showing itself, according to Faidherbe, more terrible than the natives, how is it that it was not distinguished by customs different from those of the natives? How is it that it was supplied with the same African ornaments, such as ostrich feathers? Why do we find the hair dressed in the African and not in the European manner? Yet there must have been great differences, if the one race came from the north of Europe and the other from the Sahara. It cannot be said that they had become fused with the natives whose tongue they had adopted, if it is true that they attacked Egypt a short time after their arrival in Africa. And if they were such strong and proud conquerors, it is unlikely that they would have abandoned their own language for that of the conquered barbarians. We may also oppose the Celtic theory of the blond element in Africa by the

[1] *Géographie comparée*, pp. 473-4.

results of Celtic anthropology established by Broca and others. According to Broca and subsequent investigators, such as Hovelacque, the Celts were brachycephalic brunets,[1] not dolichocephalic blonds, as many historians and some anthropologists have supposed.[2] The blonds of Africa, as appears from various measurements, are dolichocephalic.[3] Pruner-Bey found conformity of type between the Berber and Egyptian skulls,[4] and from an examination of the skulls from the Roknia graves he deduced the curious and important conclusion that they exhibited a type resembling that of ancient Italian skulls, and he hence suspected that there had been emigration through Sicily to Tunis.[5] Without for the moment accepting or rejecting this opinion of Pruner-Bey's regarding the cranial type of the ancient Italians, we may note that he could not see the least indication of Celtic characters in the skulls of the megalithic monuments.

It might be responded that the blonds were Teutonic, and therefore dolichocephalic, perhaps even of the Reihengräber type. No one, however, has absolutely asserted this, and if they were regarded as Teutons we should have to consider the objections arising from this supposed acclimatisation in Africa of a north European race. Moreover, if the Teutonic element constructed the megalithic monuments of

[1] Broca, "La Race Celtique Ancienne et Moderne," *Rev. d'Anth.*, 1873; Hovelacque, "Le Crâne Savoyard," *ib*, 1877; Sergi, *Liguri e Celti nella Valle del Po*, Florence, 1883.

[2] His and Rütimeyer, *Crania Helvetica*, p. 34; Viré, "La Kabylie du Djurjurn," *Bull., cit.*, 1893, iv. 5.

[3] Bertholon, *op. cit.*

[4] Hartmann, *op. cit.*, p. 272.

[5] Bourguignat, cited by Hartmann, *op. cit.*, p. 273.

Africa and Europe, we ought to find a much greater number of primitive blonds in Spain, in the west of France, and in Great Britain before the Celtic invasions of the neolithic age. Now it is precisely this element which is rare in the west of France and in Spain, due rather to recent than to prehistoric immigrations.

In opposition to the theory of a migration from the north of Europe to the west and then to Africa, I am, on the contrary, convinced that a migration of the African racial element took place in primitive times from the south towards the north. The types of Cro-Magnon, L'Homme-Mort, and other French and Belgian localities, bear witness to the presence of an African stock in the same region in which we find the dolmens and other megalithic monuments erroneously attributed to the Celts.[1]

As regards megalithic and sepulchral monuments in general, of various forms, after studying their construction and diffusion throughout the Mediterranean, on the North African coast, including Egypt, and in various parts of Europe, I am convinced that they owe their origin to a stock which I have called Mediterranean, but which is of African origin. The term "Mediterranean," as I use it, has not the extension given to it by French anthropologists, and by those who follow Müller's classification. I understand by it all those primitive peoples who have occupied the basin of the Mediterranean, and have such fundamental physical characters in common as to enable us to assign to them a single place of origin, which must be in east Africa and to the north of the Equator.

[1] Cf. Verneau, *Rapport sur une Mission scientifique dans l'Archipel Canarien*, Paris, 1887.

The French give the race, as they term it, a more restricted and partial sense, so as to exclude many of the populations which belong to it.

This stock, thus widely extended, must have had primitive funeral customs, which it preserved until they were destroyed by new and stronger influences, after the neolithic epoch had partially modified them in the regions where that foreign influence was predominant, as appeared in Greece, Italy, Great Britain, and some parts of Central Europe. At first the dead were deposited in grottoes and caves, and the artistic development of the sepulchral monuments in structure and form increased with the growth of civilisation among the various fractions scattered through the great basin and towards Europe. Asia Minor possessed artistic tombs, and it is sufficient to recall the tomb of Alyattes, described by Herodotus; Greece also possessed artistic sepulchral monuments in the Mycenæan age, as shown by the tombs of the Atridæ; Egypt developed in a colossal manner the conception and execution of the sepulchral monument, which consisted of a chambered tumulus in which the dead man lay as though he were alive and inhabiting his own house.

Libya, or the southern and western part of the Mediterranean, with its populations shows us the primitive diffusion of the Mediterranean stock, and hence the series of its sepulchral monuments represents civilisation from its most primitive to its most developed forms under the Numidians and other Libyan tribes. We find here, therefore, not only the monuments improperly called Celtic, but also the mortuary grottoes and caves; and we find tombs to which nothing in Europe corresponds, because they

were constructed when the two regions were separated by the invasion of other stocks which transformed the funeral customs of the primitive inhabitants of Europe. The *Bazina*, *Sciusce*, and *Madghasen* are monuments of purely Libyan character; the last are really architectural works, apparently influenced from Greece, showing an evolution towards the tumulus, especially among the Numidians.[1] The Celts and the Germans never reached Libya, as some believe; if they had, they would have modified the funeral customs by introducing cremation, as they did in Europe in the neolithic age.

In primitive times, therefore, that is to say in those times recorded by the Egyptian monuments, we must exclude the influence of any stock not of Mediterranean character; the confederation of the Siculi, the Sards, and other Mediterranean peoples, with the Libyans against Egypt, represents the alliance of many peoples belonging to the same western stock against the oriental Egyptian power. The European stock, Celtic or Teutonic, had not yet appeared to the south and west of Europe to hinder any further diffusion of the Mediterranean stock, and to displace it from its latest seats. It seems to me impossible, therefore, to find in the blonds of Africa a racial element from northern Europe. If they had come at so early a period they would have radically modified Libyan civilisation, beginning with funeral customs, as I have already said, and imposed their own language; this supposition is absolutely excluded.

It cannot be argued that the European element was too small to impose its customs and language; if that

[1] Cf. Letourneux, *op. cit.*, fig. 59; Tissot, *op. cit.*, p. 499 *et seq.*, and figs. 55, 56.

were the case it would quickly have disappeared by absorption, or selection, or the difficulty of adaptation to the African climate. To have descendants down to our own times it must have been very large; and in that case it would have created a new civilisation and perpetuated its own tongue.

Must we, therefore, regard the presence of blonds in Africa as inexplicable?

In Livi's work on military anthropometry[1] a very important fact is brought out concerning the distribution of blonds in relation to height above the sea-level. He finds that in Piedmont, Liguria, Veneto, Emilia, Lombardy, Tuscany, the Marches, Lazio, Campania, Basilicata, Calabria, Sicily, and Sardinia, above 401 metres over sea-level the blonds predominate over the brunets; below 400 metres the brunets predominate. Umbria is an exception, for here the two elements are nearly equal, also Abruzzi, where the brunet element prevails, an exception which Livi explains by the fact that these two provinces are hilly almost throughout, so that we could scarcely expect to find any marked difference between the small plain regions and the surrounding hills. He attributes the phenomenon to a special action of mountains on pigmentation; through their height they thus have the same influence as latitude.

If we turn to the region where the blonds in Africa are most numerous—that is to say, Morocco—we observe at once not only that, like the whole of Northern Libya, it is situated in the temperate zone, between about 36° and 29°30′ of lat. N., but that it constitutes the enormous nucleus of the Atlas chain.

[1] *Antropometria militare*, Parte I., Rome, 1896, pp. 65 *et seq.*, fig. 11.

The heights above sea-level vary between 600 and 12,000 feet.[1] There is therefore a region of perpetual snow, and a cold region constituted by valleys not very unlike some Alpine and Apennine valleys. May we not conclude that the same Libyan stock, established in North Africa from time immemorial (we now have evidence of an early stone age), had undergone the diverse influences of external conditions of climate and soil forming variations in external physical characters? We may perhaps see in the eastern Hamitic branch, exposed to different conditions of latitude and soil, from Egypt to Central Africa, a series of variations so characteristic as to form, by pigmentation alone, distinct varieties of the same stock. If the fundamental internal characters of the blond and brunet Libyans are the same, I am disposed to believe that the external differences, in colour of hair, skin, and eyes, are due to the influence of altitude.

The centre of formation of the blond element in North Africa would thus be in the Atlas valleys, especially in Morocco, and this would explain the fact that we find the greater number of blonds in this region. From this centre there would have been, in ancient and succeeding times, a certain diffusion into the neighbouring countries as far as the sea in Algeria and Tunis. Possibly in ancient times this movement was a rapid emigration, and hence an invasion towards the east in union with the brunet populations; and the presence of blonds among the brunets must have caused great surprise, as among the Romans at the time of the invasion of the Gauls, composed of brunet

[1] Thomson, *Travels in the Atlas and Southern Morocco*, London, 1889.

Celts and blond Teutons. Although we can only assign a relative value to the pictorial ethnography of Egypt, we must suppose that, in the presence of this new and unexpected blond type with blue eyes, the Egyptians represented the Libyans with these characters, not taking into consideration the brunets.

Quedenfeldt, it is true, would return to the opinion of those who see the Vandals in the African blonds, because, he states, in the great Atlas, to the south, he could not find one; he attempts to give various explanations of the presence of blonds, by referring it to Spanish families, to European refugees, to the construction of Fez, which furnishes a shelter from the darkening influence of the sun.[1] I do not wish to deny that on the coast of Morocco, as on that of Algeria and Tunis, there are foreign elements from Europe and elsewhere, and I would admit with Quedenfeldt that many blonds have come from Europe; but it seems to me impossible thus to explain the blonds in the valleys of the Atlas chain.

Physical Characters of the Libyans.—If we seek to ascertain the physical characters of the Libyans from the evidence offered by the Egyptian monuments, we shall find ourselves considerably perplexed, in spite of what is affirmed by some as to the truthful character of the pictured and sculptured representations on these monuments. We find three types represented under the names of Tamahu and Lebu, and all three different. The most characteristic Tamahu type shows a slightly aquiline nose, a well-cut mouth with thin lips, rather elongated chin, little beard and very short moustache; the hair is worn in little falling

[1] "Eintheilung und Verbreitung der Berberbevölkerung im Marokko," *Zt. f. Ethnologie*, xx., 1888, pp 115, 189, 190.

tresses like the people of Pun, with one long tress descending in front of the ear as far as the neck, and twisted into a spiral; two large ostrich feathers adorn the head (Fig. 1).[1] The second type (Fig. 2) differs notably from the first; the nose is strongly aquiline and the forehead receding, the lips thick and the beard long, so that as represented on the monuments it might be regarded as a Semitic type. A third head, representing a chief of the Lebu, shows an

FIG. 1.—Tamahu (Rosellini).

aquiline nose, more elevated than the others, prominent lips, a long beard differently arranged from that of the second figure; the forehead seems to show exaggerated prominence of the supra-orbital arches (Fig. 3).[2]

What can we conclude from these three types? Which is correct? Poole regards the first as the real Libyan mythological type, and thinks that all may represent sub-races; he compares the third type with a Shardana or Sard type very slightly differing from

[1] Rosellini, Plate clx. [2] Rosellini, Plate cxlii, 3.

it.[1] He believes also, in my opinion incorrectly, that the last two types are strongly accentuated forms of the first. I cannot see this resemblance; it is enough to note the slight development of the beard in the first, and its fulness in the other.

More noteworthy is the opinion of Flower (expressed at the same time as Poole's), who believed that in the third form and in the Shardana[2] we may recognise the Neanderthaloid type. It is quite probable, he remarked, that these people from the

FIG. 2.—Tamahu (Rosellini).

north were the descendants of a primitive European population which crossed into Africa by the Straits of Gibraltar. Poole accepts this opinion, which he calls an important discovery, as to an aquiline variety of the Nordic population with prominent supra-orbital arches, representing the primitive European type. But to discover the Neanderthaloid type in Africa, a primitive European race at the period of the XIXth Dynasty, seems to me, with all due regard to Flower's

[1] Poole, "The Egyptian Classification of the Races of Man," *Journ. Anth. Inst.*, vol. xvi., 1887, pp. 371 *et seq.*

[2] Rosellini, Plate cxliii., 10.

opinion, a work of the imagination. Moreover, to discover it with a nose of the character called Semitic, and to make it a new variety of the Neanderthaloid type, seems to me an altogether baseless conception. I cannot agree that the primitive European type was prevalent in the Mediterranean among Sards and Libyans, as these two distinguished English authorities are prepared to do, on the evidence furnished by two Egyptian drawings which may be merely conventional.

FIG. 3.—Lebu (Rosellini).

The type most approaching truth must be the first, which in costume also bears the characters of primitive civilisation, as well as the undeveloped beard peculiar to the varieties of the Hamitic race. This type is repeated on the Egyptian monuments with slight variations; the beard is worn as by the Arabs, and the arms are tattooed.[1]

Unfortunately we have no explicit notices concerning the physical characters of the Libyans from any Greek or Roman source, notwithstanding the intimate

[1] Lepsius, *Denkmäler*, Plate III.

relations between these two nations of antiquity and Africa. They have only handed on to us geographical information and racial names, which we may in part identify with new names transformed from the old. If we wish to have exact ideas concerning the Libyans we must therefore examine the modern Berbers, who are still numerous in the extensive region they have inhabited from time immemorial, remaining unchanged, it seems, in their customs and in their anthropological characters, in spite of the foreign domination they have undergone, especially in the northern zone, at the hands of Phœnicians, Greeks, and Romans in ancient times, of Vandals, and finally Arabs in more recent times.[1]

From such information as we have, and from the neglect of the ancients to describe the physical characters of the Libyans, we gain the general idea that in facial characters and colour of hair and eyes these people resembled the inhabitants of Southern Europe. On this account, perhaps, in the eyes of the Greeks and Romans, the northern Libyans may not have seemed to call for particular description; the attribution of Persian, Armenian, and Median origin to the Numidians by Hiempsal indicates that the Libyans resembled the peoples in whom their origin was then sought. At Rome an orator or other person of Libyan origin was not distinguished

[1] Boissier (*L'Afrique Romaine*, 1895, p. 315) writes on this point:—"Of all these only Berbers remain; they have absorbed everything. I know not if anthropology, by investigating the colour of their skin or the conformation of their bodies, will ever distinguish among them the descendants of these various vanished peoples; but in their ideas, their customs, their beliefs, their manner of thinking and living, there is nothing Phœnician, nothing Roman, nothing Vandal; it is the Berber alone who emerges."

from a Roman, and in Greece and Egypt no distinction in physical traits was attributed to the Libyans who sojourned there. In the long and severe Punic wars the cavalry, and perhaps the whole army of Hannibal which passed into Italy, was composed of Numidians and other Libyans or Berbers, and their figures and appearance attracted no attention as unlike those of south European peoples. There must have been considerable if not complete resemblance. The reports of the Roman generals who penetrated into the Fez district, as far even as Agisimba, have not reached us; but geographers like Strabo and Ptolemy speak of the Melano-Getuli, Leuco-Ethiopi, and so on, thus implying the existence of mixed races, or those of European form with dark or negroid coloration. This is fully confirmed by travellers who, penetrating into the southern regions of Libya, have found peoples of dark complexion with hair and facial form not unlike the northern Libyans. This is what we might expect to find in the case of a stock so widely extended from north to south, under such varied and different conditions of climate.

The Libyan stock is very ancient, as is shown by the worked stone implements found in the Sahara and to the north of the Atlas. "The latest explorations in the northern Sahara," Tissot remarks,[1] "lead us to regard it as one of the most ancient known habitations of the human species." "The soil of the Sahara," says Bourde, "yields flint arrow-heads, and fragments from the working of these arrow-heads in immense quantity, an undeniable proof of the existence of a large population which found a

[1] *Op. cit.*, p. 398.

climate favourable to life in a region which to-day seems devoted to eternal sterility."[1] "The workshops are usually found on the edge of the *daïa*, depressions in the soil often found in the chalk platform which separates El-Lua from the Scebka of the Mzab. The more important are situated to the south of the wells of Zebbascia in the valley of Ain-Macin, near the cromlech of Sidi-Mescâ-a, at El-Hassi, on the platform of Noumar, and at El-Golea. We may also find them in the great dunes of Machgarden; they disappear at Hassi-Berkan to reappear more numerously in the Wed-Mia, and especially in the neighbourhood of Wargla. A certain number of these Sahara flints are very worn; the angles are blunted and the facets polished by the action of the sand borne by the winds; flints transported by torrents seldom present so worn an appearance. A long period of time must therefore have elapsed to allow these effects to be produced, and we must attribute a great age to these implements. It is also to be noted that the flints worn by the sand are of coarser form than the others; this would agree with their relative antiquity. They are chiefly met with in the south and near El-Golea. The flints from the north, those of Zebbascia and Wargla, for instance, offer on the contrary highly finished types. Dr. Weissgerber argues from these differences that the populations of the south date further back than those of the north, and that they gradually emigrated from the south towards the sea-coast, leaving behind them the desert, from which they were probably driven out. The direct descendants of these aborigines of the Sahara," this author

[1] Bourde, *La France au Soudan*, quoted by Tissot, *op. cit.*, p. 399.

continues, "seem to be represented in the east by the Barabra of the Nile valley, at the centre by the Garamantic race of the highlands of Fezzan, the oases of Nefzana and Wed-Suef, to the west by the Ruegha or inhabitants of Wed-Righ and the Berbers of Sus in Morocco. Although of very dark complexion, these peoples differ essentially from Negroes in their features and hair. They call themselves *Khomri*, brunets, and consider it an insult to be coupled with Negroes."[1]

In this connection also we may appeal to the opinion of Carette, who writes that "the autochthonous population of Wed-Righ marks the transition in complexion and features between the white and the black race. The complexion is not the more or less bronzed tint of the southern white population, but a different and special colour, nearer to black than to white. They have neither the flattened nose nor the thick lips of the black race, though their features are not wholly those of the white race. They constitute an intermediate race, connected with both the two foreign races from which they are separated, and which they approximate."[2]

These conclusions are very important as regards the origin of the Libyan populations in particular, and the Hamites in general. We see an intimate connection with the populations of the eastern branch of the Hamitic stock, which by its great extension from the Nile valley meets the north-western branch, both melting into the Mediterranean race, and forming as fair-skinned a population as if they were derived from a white race.

[1] Tissot, *op. cit.*, pp. 399-400.

[2] *Origine et Migration des principales Tribus de l'Algérie*, pp. 305-306.

As we have seen, in antiquity the name Libyan was only given to the populations at the west of Egypt, and at the first glance it seems that Egypt has nothing in common with Libya. This happens because in Egypt a new and higher civilisation developed, assuming a special form distinct from Libyan civilisation. But the latest discoveries in Egypt itself have now shown, as we shall see, that the Egyptians, before they assumed new forms and raised themselves above all the other African peoples of the same stock, possessed their civilisation in common with the western Libyans. They were thus a racial branch from the same stock which gave origin to the Libyans specially so-called, one of the four peoples of the Mediterranean.

CHAPTER V.

THE EGYPTIANS.

The African Origin of the Egyptians—The Art of Writing—Physical Anthropology of the Egyptians.

A FEW years ago it seemed that there was nothing further to say concerning the origin of the Egyptians; but recent discoveries revealing the existence of a civilisation anterior to that of history have renewed the discussion, while the problem has at the same time become more complicated. In this discussion I have taken part by accepting, and seeking to support with anthropological arguments, the African origin of the Egyptians.[1]

According to a somewhat late tradition of the Egyptians, they came from the land of Punt. It is difficult to determine this region, and various opinions have arisen regarding the interpretation of the Egyptian texts. Egyptologists only agree in believing that this land of Punt must be placed to the south of Egypt, either in Somaliland or in southern Arabia, or in a region including both lands, as Flinders Petrie, Sayce, and others incline to think.

Sayce[2] considers that the Egyptians are a branch of the so-called Caucasian race, like the Semites, but

[1] *Africa*, Turin, 1897, cap. i.

[2] *Races of the Old Testament*, chap. v., London, 1891; cf. Flinders Petrie, *History of Egypt*, vol. i., pp. 11-13, London, 1894.

belonging to the Hamitic stock, and that because Mizraim was a descendant of Ham. He believes that the ruddy skin of the Egyptians, as represented on their monuments, is due to the action of the sun; he believes that they are of the same race as the men of Punt, also represented of a brick-red colour on the monuments. The people of Punt, according to Sayce, came to Africa from Arabia. He accepts the ultimate unity of origin of the Semites and the Hamites, an opinion to which many incline to-day, and this naturally leads to the conclusion that the Egyptians, as well as all the other Hamitic peoples, came from Asia.

It may be well to recall what Brugsch considers that he has been able to establish concerning Egyptian geography and ethnography as presented on the monuments.[1] He distinguishes three groups among the populations of the south, one being the inhabitants of Punt, and he believes that the land of Punt lay along the whole African coast of the Red Sea as far as the Straits of Babelmandeb; a study of the Harris papyrus leads him to the conclusion that it makes no reference to any Arabian region, but includes the Troglodytic coast from north to south, beginning perhaps at Myoshormos, this supposition being confirmed by the great geographic list of Karnac. The inscription on the temple in the valley of Assassif, to the west of Thebes, in which is described the great expedition of Queen Hatshepsu to the land of Punt, reads: "We sailed on the sea, and began a fair voyage towards the divine land, that is to say, the west coast of Arabia, and the journey towards the

[1] "Die Altägyptische Völkertafeln," Fifth Congress of Orientalists, Berlin, 1881.

land of Punt was happily resumed."[1] Here Arabia is clearly distinguished from the African land of Punt,

FIG. 4.—A Punt Chief (Mariette).

and all doubt as to whether this much discussed region

[1] Brugsch, *op. cit.*, pp. 69, 70.

is to be sought in Africa or elsewhere seems to be dissipated.

The determination of this question is of some interest to the anthropologist and ethnologist of Egypt and of the peoples to the south of that land. Naville, discussing recent excavations at Deir-el-Bahari, expressly says when speaking of fragments connected with the celebrated wall of Punt: "Small as these fragments often are, they give us important information as to the nature of the land of Punt. Its African character comes out more and more clearly. Although the name of Punt may have applied also to the coast of South Arabia, it is certain that the Egyptian boats sent by Queen Hatshepsu anchored on the African shore."[1]

Müller[2] gives precise indications concerning the people of Punt which serve to bring them into connection with the modern populations of the coast of Somaliland, and, like Brugsch, he excludes the theory that Punt also includes the south-west of Arabia. He finds that the physical and ethnographic features of the people of Punt are African of the type commonly called Caucasian, and that they belong to the same stock as the Egyptians. The Prince of Punt, carved at Deir-el-Bahari, possesses, in common with Egyptian princes, the long pointed beard, and he carries a boomerang, which was among the weapons of Egypt; he also wears a series of rings on the right leg[3] (Fig. 4).

[1] Griffith, *Egypt Exploration Fund, Archæological Report*, 1895, p. 34.

[2] *Asien und Europa nach Altägyptischen Denkmälern*, Leipzig, 1892.

[3] Mariette Bey, *Voyage dans la Haute Egypte*, vol. ii., p. 62; Sergi, *Africa*, p. 77; Krall, "Das Land Punt," *K. Akad. der Wissenschaft*, Wien, 1890, Bd. cxxi., pp. 75-77.

But this all appears but mere conjecture concerning the origin of the Egyptians compared with the new facts revealed during the last few years; the tradition of the land of Punt, though preserved on the monuments, is relatively recent, and too distant from the origin of the race, especially since the historical indications have been succeeded by prehistoric, relating to the ages termed palæolithic, neolithic, æneolithic, the last being that of copper united to the most beautiful and perfect stone implements that have ever existed. It now seems that all that has hitherto been believed concerning the Egyptians must be profoundly modified, both as regards the origin of their civilisation and the populations which at various epochs have produced that civilisation.

Putting aside Amelineau, the two explorers who have made the greatest discoveries are Flinders Petrie and De Morgan, and both of these have set forth the conclusions which they draw from their own discoveries concerning the origins of the Egyptian people and civilisation. They have resolutely maintained that two races at least have inhabited Egypt, one African and indigenous, the other immigrating from Asia, bearing with it the civilisation of the Pharaohs, and subjugating the first indigenous and savage population. The discoveries at Abydos, Naqada, and Ballas have aided in confirming these opinions, in spite of the fact that the two explorers differ in their interpretation of the tombs at Naqada and Ballas.

At Naqada the fortunate English explorer discovered an immense tomb revealing a civilisation unlike that of the Pharaohs. It was genuine neolithic civilisation with some copper objects, the graves

being very similar to those in Europe of the same epoch, that is to say with shrivelled corpses in a crouching position, together with certain variations of funeral custom difficult to explain, such as the dismemberment of the body, the separation of the head, which was buried apart or with a few other bones, the absence of some parts of the bodies, a disordered re-mingling in unviolated graves (Fig. 5).

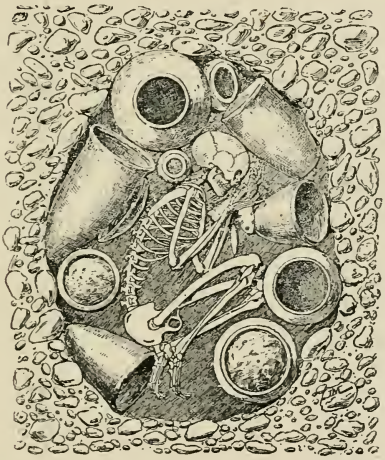

FIG. 5.—A Prehistoric Egyptian Tomb (De Morgan).

It seemed to Flinders Petrie that the population which had left this vast sepulchre was a new people, and he called it the "new race," which arriving between B.C. 3000 and 3500, between the ancient and middle Egyptian empire, had destroyed or expelled the Egyptian population and entirely occupied the Thebaid. He argued, from the absence of Egyptian objects belonging to this epoch in Upper Egypt, that the dominion of this "new race" lasted for three

centuries. This new people, thus attaining full Egyptian dominion, were Libyans. Petrie maintained this opinion not only on the ground of funeral customs and products, that is by the whole civilisation, but also by examination of the numerous skulls found in the graves.

These skulls have, in fact, been subjected to a summary comparison in measurement with those of Roknia studied by Faidherbe, and it is affirmed that they differ from Egyptian skulls in capacity, more especially, and by the nasal index, while they are very similar to the modern skulls of Algiers, and to the ancient skulls of Roknia, and that they are, therefore, Libyan. The same author thus summarises the characters of the "new race" in comparison with those of the Egyptians of the times of the Pharaohs[1]:—

EGYPTIAN CHARACTERISTICS.	NEW RACE CHARACTERISTICS.
Inscription.	Rude marks, not grouped.
Sculpture.	Great incapacity for form.
Chamber tombs.	Roofed grave pits.
Tombs in cliffs.	Graves in valleys.
Coffins.	Burial in clothing.
Extruded burial.	Contracted burial.
Mummification.	Cutting up the body.
Skull capacity, 1460.	Capacity, 1310.
Nasal index, 48.3.	Nasal index, 53.7.
Weapons, bows, and arrows.	Forked flint lances.
Copper-edged stick.	Quadrangular dagger.
Amulets buried.	Ashes buried.
Mirrors of copper.	Slate palettes.

[1] *Naqada and Ballas*, London, 1896, p. 60.

EGYPTIAN CHARACTERISTICS.	NEW RACE CHARACTERISTICS.
Scarabs.	Fine flint bracelets.
Canopic jars.	Jars of fats.
Pottery, wheel-made.	Pottery, hand-made.
	Red polished.
	Red and black.
	White line on red.
	Decorated.
	Incised.

At first sight these characters give the impression that we are dealing with a population foreign to Egyptian history, and with a civilisation not only different but inferior; Petrie's opinion seems to be justified. But an accurate study of the civilisation of Naqada and an extended comparison with other discoveries, including those at Abydos, clearly shows that Petrie had been dazzled by the unexpected novelty of the discovery. De Morgan, who continued the excavations at Naqada and discovered new graves, including a royal tomb, presenting data of great importance for the primitive history of Egypt, interprets the facts differently from Petrie, and considers that the "new race" should rather be called the "old race," since he regards it as representing the aborigines, the first inhabitants of Egypt before the invasion of the true Egyptians.[1]

I cannot here reproduce all the reasons brought forward by De Morgan against the opinion of Petrie, but they seem to me for the most part just, and I accept his conclusion that we are here concerned with a primitive population, not one that arrived at a late

[1] *Recherches sur les Origines de l'Egypte*, Paris, 1897, p. 16.

epoch of the old Egyptian empire, as also I accept his opinion that we find here a civilisation anterior to that of the Pharaohs in its definite and well-known forms. But I cannot follow De Morgan when he attempts to show, even with the aid of anthropology, that the prehistoric population was different from the Egyptian, which he would bring from Asia. Many arguments against his opinions may be found in his own discoveries at Naqada and elsewhere, and in the physical characters of the skulls described by Fouquet, as well as by Petrie.

First of all we may note the method of burial adopted in the necropolis of Naqada and elsewhere, so well investigated by Wiedemann, who, though desiring to show the Asiatic origin of the Egyptians, really furnishes arguments favourable to the opposite opinion of an African origin. Excavation in a necropolis of the Naqada type shows that the men of that period had three methods of burial: "Either the grave received the disseminated and incomplete bones, or the skeleton was placed in a position recalling that of the fœtus, or the body was burnt in a monumental tomb," as seems to have been the case with a royal tomb explored by De Morgan, though this has been doubted and even denied by others.[1] Wiedemann, however, accepts this conclusion, and also agrees that these three usages are unlike the classical customs of the Egyptians, but he believes it may be shown that they are intimately united with the Egyptian religion and with the worship of Osiris and Horus, as learnt from the Book of the Dead and the ritual formulæ of the Egyptians. Referring to

[1] See De Bissing, "Les Origines de l'Egypte," *L'Anthropologie*, vol. ix, p. 415.

dismemberment, Wiedemann states that "the vestiges of this very ancient custom have never completely disappeared, and are preserved not only in the texts but also in actual practices. Up to a very late period the lower part of the foot of the mummy was dislocated, and in other cases the phallus of the corpse was cut off in order to be embalmed separately and buried near the mummy." This explains, in his opinion, the dismemberment and disorder of the bodies in the graves discovered by Petrie, and hence a custom which was symbolically preserved down to the latest epoch of Egyptian history. As regards the absence of portions of the body, explained by Petrie as due to a special kind of anthropophagy, with the object of inheriting the virtues of the dead,[1] Wiedemann gives no satisfactory explanation, but cannot accept anthropophagy.

Wiedemann finds a similar survival of the burning of the dead in Egyptian customs and rites, and concludes by saying: 'I dare to hope that the preceding pages have sufficiently proved that the record of the customs of the epoch of Naqada, and the religious ideas united with them, had not disappeared among the Egyptians of later times. The immediate consequence of this continuity is that we cannot maintain the widely diffused hypothesis that the people of Naqada belong to a different race from the historical Egyptians." Then, however, he proceeds to alternate this just conclusion by an opposite conclusion of sufficiently strange character; "to influence Egyptian religion so decisively," he remarks, "the race with whom these ideas originated must have had intimate relations with that from which the Egyptians were

[1] *Naqada and Ballas*, pp. 32, 62.

derived; it formed one of the elements of which was composed what we are accustomed to call Egyptian civilisation." And he proceeds to state that we cannot admit an evolution of the funeral customs of Naqada into the custom, which became general among the Egyptians, of embalming the corpse; this custom, he argues, must have been imported by a new race, from elsewhere, which conquered the primitive race and made them helots.[1] It is difficult to conceive how a race in a state of servitude could have so great an influence on its conquerors as to cause them to accept its burial customs, constituting the patrimony of the religion of the dead. Petrie, it may be added, suspects that Osiris was a Libyan divinity.[2]

This transformation of burial customs has convinced me that there has been a real evolution up to the definite form of embalming which then remained constant. Of this Fouquet, in his craniological examination, found evident traces in the skulls of Beit-Allam, of Guebel-Silsileh, and other places. There exist, he states, in the skulls of the rude stone epoch in Egypt, deposits of bitumen mixed with cerebral substance, and this bitumen could not have been introduced by the nasal passages, the brain not having been removed, but only by the occipital foramen, after the head had been cut off; and Petrie repeatedly states that the head was generally cut off in the graves he explored.[3] De Morgan is compelled to admit that the burial customs of the early Egyptians were not yet fixed.[4] If this was so, it

[1] Wiedemann, in De Morgan, *op. cit.*, 1897.
[2] *Naqada and Ballas*, p. 62.
[3] De Morgan, *op. cit.*, vol. ii., 1897, pp. 346 *et seq.*
[4] *Op. cit.*, p. 17.

cannot be affirmed that the historical Egyptians were not the descendants of those who left their graves at Abydos, Naqada, and Ballas—that is to say, the graves of neolithic civilisation. Besides, the royal tomb at Naqada, regarded as the tomb of Menes, the founder of the first dynasty, clearly shows a transition between neolithic civilisation and a new civilisation slowly acquiring its definite characters.

The Art of Writing.—An argument which seems decisive in favour of the opinion that the Egyptians were a new race of immigrants, conquering the Libyan race, regarded as that of neolithic civilisation, is found in their writing, which had no existence among the Libyans. Petrie, as we have seen, among the distinguishing characters of Egyptians and Libyans, places the inscriptions on one side and on the other "rude marks, not grouped," as peculiar to the "new race." Now it is true that the Libyans possessed only linear alphabetic signs, as we may see by Petrie's plates (LI.-LVII.) and the examples given by De Morgan; but it is well to recall also that these signs, called by their discoverers "marks," without having any alphabetical significance attributed to them, are really writing signs, many of which still remain in the alphabet of the Tuaregs, as Evans has shown.[1] They may be brought into line with the pre-Phœnician writing of the Mediterranean and the pre-neolithic of other parts of Europe, as I shall show later on. We cannot, therefore, affirm that the Libyans had no writing in the general significance of the word.

It is a very interesting fact, however, that these

[1] "Further Discoveries of Cretan and Ægean Script," *Journal of Hellenic Studies*, vol. xiii., 1897.

alphabet-like forms were not abandoned by the population at the epoch of Abydos and Naqada, being used contemporaneously with writing of Egyptian type—that is to say, hieroglyphics. De Morgan gives examples of terra-cotta vases with signs that indicate the royal ensign and yet bear such marks.

FIG. 6.—Marks on Pottery at Abydos (De Morgan).

Tégnier, in other monuments like those of Abydos (Fig. 6) excavated by Amelineau, demonstrates not only the contemporary use of alphabet-like signs with hieroglyphic inscriptions, but also inscriptions which seem to be transcriptions, because they are either linear or groups of such signs, as in some vases from

FIG. 7.—Impressions of a Cylinder and Designs on Pots for the Tomb of King Den (De Morgan).

Abydos.[1] This implies, it seems to me, that the use of the new writing was not yet universal, but that at the period of the first dynasty at Naqada, as indicated by the royal tomb of Menes, we find a period of transition; like the burial and other customs, writing was also being transformed (Fig. 7).

[1] De Morgan, *op. cit.*, vol. ii., p. 236, figs. 787-795.

More surprising than all seem to me to be those ivory tablets found in the royal tomb at Naqada, on which are signs, probably numerical, of the same type as those met with on European dolmens, and having nothing in common with the Egyptian ideographic characters (Fig. 8). These signs, also, are doubtless Libyan, and were employed together with the writing considered Egyptian.

Here, however, it is necessary that I should refer to a different interpretation furnished by Arthur Evans in the study already mentioned. He calls "Proto-Egyptians" or "Egypto-Libyans" these peoples

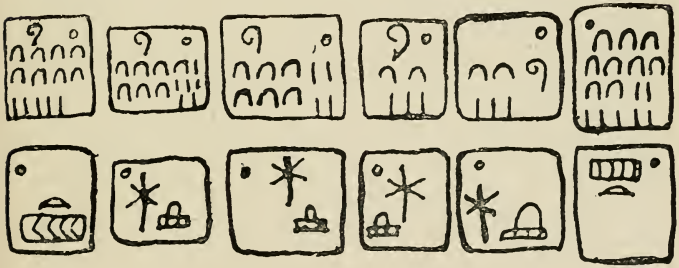

FIG. 8.—Ivory Tablets showing Linear Writing (De Morgan).

whom Petrie calls "new race" or "Libyans" and all other archæologists "Libyans," and he likewise believes that the people of the times of the Pharaohs immigrated into Egypt from Asia, bringing with them the civilisation and writing properly called Egyptian.

"The linear characters found on the Proto-Egyptian pottery at Naqada," he recognises, "recur to a considerable extent on pottery found in tombs of the earliest dynastic period at Abydos, side by side with true hieroglyphic forms. At Abydos there is per-

ceptible a certain reaction of linear indigenous signs on the more elaborate and pictorial characters of the Pharaonic people. Thus in several cases the linear forms here are simply Egyptian hieroglyphs very rudely scrawled.

"This reduction of the more elaborate hieroglyphic forms to simple linear signs, which at Abydos is quite unmistakable, finds a certain amount of analogy on the still earlier indigenous vessels of Naqada, and suggests some curious questions. We now know that by the time of Menes the highly developed hieroglyphic script of the dynastic Egyptians had taken firm root in the country. But a large proportion of the hieroglyphic signs—the lotus-sprays and river-craft, the water-birds, fishes, crocodiles, and other characteristic animals, already by the time of the first dynasty become conventionistic types—are of indigenous Nilotic origin. It follows then that many of the elements of hieroglyphic writing had been growing upon the banks of the Nile long before the time of the first historic dynasty. If the race that brought these pictorial elements to maturity is to be regarded as distinct from the old inhabitants of the land, whose remains have now been recognised at Naqada and elsewhere, it must at least have been brought into very early contact with them. Hence there is a possibility that the beginning of hieroglyphic script reacted on the linear native signs at a much remoter date than that of Menes. And the hieroglyphic figures themselves—how far may they not simply represent the coming to life of still earlier linear types?"[1]

The arguments of this able writer and his state-

[1] *Op. cit.*, pp. 383-384.

ments concerning the two forms of writing seem to me to show clearly the relation between both, and the difficulty of separating them absolutely: "Both at Naqada and Abydos," he points out, "characters of more pictographic aspect—and in some cases identical with Egyptian hieroglyphic forms—are at times coupled with the linear signs." The same phenomenon is repeated in the Mediterranean, in Crete, and during the Ægean age. Evans's remarks imply a recognition on his part that the origin of Egyptian writing is to be found among what are commonly called the aborigines, the Libyans, or by him Proto-Egyptians, and imply doubt whether there is any race here distinct from the aboriginal Libyan.

In the same way we may view what Evans observes concerning a steatite cylinder in the Petrie collection, and another of clay in the Gizeh Museum, which De Morgan refers to the first dynasty, and regards as an Asiatic importation due to the Egyptian invasion.[1] Evans, on the contrary, comparing it with a prism-seal of steatite from Karnac, refers it to his Proto-Egyptians, the Libyans of Wiedemann and others, as a hybrid product due to a partial survival of these primitive inhabitants in the Nile valley, an imitation of the cylinders of Asiatic and Egyptian origin, without being either one or the other ("combined with other features which are neither Pharaonic nor Chaldæan"). On the other hand, he admits that the entire civilisation of historical Egypt was influenced by this pre-existing indigenous element, the assimilation of which was a work of centuries. He rightly finds the same art again in the Mediterranean,

[1] *Recherches*, etc., p. 257, fig. 857.

especially at Crete, and in the civilisation of the Ægean.[1]

In all this we may see the same phenomenon that we have already seen in writing, and in the method of burial: an incipient form of the new Egyptian civilisation among the so-called aborigines, a Libyan population, slowly developing and leaving behind the traces of its origin. For it is difficult to be convinced that such an indigenous element which, as Evans himself points out, influenced the whole of historical Egyptian civilisation, should reproduce these rude cylinders the type of which was taken from Egypt itself and the Chaldæans; as, on the other hand, we cannot admit, on the strength of the analogy of a cylinder, that Egyptian civilisation, so unlike in its forms, and so unique, was derived from Chaldæa.

If we turn to consider the Egyptian language, I believe that everything favours an African origin. It may be, as Maspero, Sayce, and others affirm, that Egyptian is intimately related with the Semitic tongues, and that Hamitic and Semitic are two branches of the same trunk; but they each have their own definite forms, with many characters that are common and many that are divergent. While also in Arabia, where the source of the Egyptian stock is sought, there is not the slightest indication of any Hamitic language or dialect, in Africa not only is ancient Egyptian Hamitic but so are a whole series of languages spoken by numerous populations to the south of Europe and the west, through the Sahara to the Mediterranean and the Atlantic, as I have shown when dealing with the Hamitic stock in Africa.[2] We

[1] "Further Discoveries," etc., pp. 362-369.

[2] *Africa*, pp. 110 *et seq.*

may be permitted to wonder, therefore, when we see the Egyptian language invoked as an argument in favour of an Asiatic Semitic, and more especially Arabian, origin, for it is not easy to understand how a stock so extended and so numerous in Africa, subdivided into many populations, should come from a region where it has not left the slightest trace of itself.

I will not enter into other details, as regards, for instance, the products, such as the vases and their typical forms and decorations; others, possessing greater competence, have occupied themselves with this matter and shown the continuity, evolution, and natural transformation of the different types at various Egyptian epochs, from the stone age to the historical age, as also they have shown the errors of De Morgan and his lack of intuition in interpreting the monuments he has discovered.[1] Others also, arguing against the Asiatic origin, have shown that both the animals and the plants known to the Egyptians were of African origin.[2] We shall here be occupied with the anthropological characters of the ancient prehistorical and historical Egyptians, since, as Petrie, De Morgan, Schweinfurth, and many others believe, anthropology may be called in to confirm the theory of an Asiatic origin.

Physical Anthropology of the Egyptians.—If we examine the criteria which have been applied to the skulls excavated at Naqada by Petrie, and at El-Amrah, Beit-Allam, Naqada, Gueb el-Silsileh, and elsewhere by De Morgan, we shall not be surprised at

[1] See De Bissing, *op. cit.*

[2] De Mortillet, Zaborowski, Piétrement. "La Pierre et les Métaux en Egypte," *Bull. Soc. d'Anth.*, 1896.

the conclusions which have been drawn concerning their racial origin. No wonder, therefore, that a German writer has been able to write concerning the incapacity of craniology to distinguish human races;[1] if I had no other criterion I would renounce it as useless, since it leads to such conclusions as those reached by Petrie and De Morgan as the outcome of their archæological work. Use has here, in fact, been made of the old and discredited method of the cephalic index which only indicates artificial and conventional distinctions, those which have served to divide the prehistoric skulls of Egypt into two diverse races.

The Naqada skulls, brought to Europe by Petrie, were studied by Thomson and Thane, whose conclusions were that "we have to deal with a race with a small skull, indicating a hot climate at their source with a very long head but very upright profile. That they have no connection with the Guanche, but agree closely with the Algerian, both ancient and modern The nose was short and prominently aquiline, but not wide." These skulls are Libyan, not Egyptian, to which latter are attributed greater capacity and higher index.[2] If, however, we consider the plate in which the measurements are graphically represented, we find that the cranial capacity varies from between about 1100 c.c. to 1500 c.c., while the indices vary from 65 to 80, the greater number being between 70 and 75; thus the average of 74.1 fails to express the truth, for the skulls fall into two groups, one with an index of 71, the other of 74, a fact, however, which seems to have no significance.

Petrie's skulls were only studied in a summary

[1] Kretschmer in De Bissing, *op. cit.*, p. 257.

[2] *Naqada and Ballas*, pp. 51-54, Pl LXXIV.

manner; De Morgan's, on the contrary, were investigated in detail by Dr. Fouquet. There are eleven in the first series, that of El-Amrah, and Fouquet found that ten of these were dolichocephalic to a more or less exaggerated extent, while one was mesaticephalic (75.55); that alone could be Egyptian, because the average index attributed by Broca to the ancient Egyptians was mesaticephalic! Fouquet forgot that the average index is not the individual index, and that Broca's series with an average index of 75.58 might be composed of skulls with indices between 70 and 80. On the other hand, the difference between a skull with an index of 75.55 and one with an index of 74.73 is less than unity, and furnishes an absurdly inadequate basis for the supposition of a difference of race. This time Fouquet reaches no absolute conclusion,[1] but in his study of the other series he reaches conclusions which are certainly strange,[2] and are very far from confirming, as he imagines, the Asiatic origin of the Egyptians, all the less since he now overturns the criterion he had before accepted, and admits that skulls with an average index of 70.6 were those of the Asiatics who came to occupy Egypt and introduce the new civilisation. Zaborowski, it seems to me, was right when he severely criticised Fouquet's methods; in spite of the numerical differences he found uniformity in the skulls excavated from these graves, and I regret that he changed his opinion in consequence of Verneau's objections.[3] Schweinfurth also believes that there is

[1] De Morgan, *op. cit.*, vol. i, Appendix, p. 241.

[2] *Op. cit.*, vol. ii., pp. 377-379

[3] Zaborowski, "Les Races préhistoriques de l'ancienne Egypte," *Bull. Soc. Anth*, Paris, 1898.

a great difference of race in the skulls found by De Morgan and Petrie, and thus seeks to confirm a legend of his own concerning the immigration of an Egyptian people, the Hamites, from Arabia, and of another, coming from the valleys of the Euphrates and the Tigris, which carried with it the great Egyptian civilisation and the art of writing.[1]

From the first time that I saw the cranial forms in Fouquet's studies of the Egyptians my only surprise was at the closeness of their resemblance to other Egyptian skulls of the Pharaonic epochs, and at the same time to other skulls which I have attributed to the Mediterranean stock, and, in the widest sense, to the Eurafrican species. I perceived that an attempt had been made to distinguish two or three different races among these skulls solely on the ground of differences in average cephalic index, and I could not wonder that archæologists and others have little faith in results obtained by such methods.

It is true, as Verneau has stated in replying to Zaborowski's observations, that there are variations in these skulls, both as regards the cephalic indices and the absolute measurements; but such variations do not give us the right to construct numerous, or even two, races. According to my method of cranial forms, it is the forms alone that we have to take into consideration, and I have shown that the same cranial form may vary in measurements and in index without losing its characters; this is a natural method, such as is employed in zoology. How many species of lark we should have if we calculated by measurement their indices of length and breadth! I have been

1 "Ueber den Ursprung der Ägypter," *Verhandlungen Berlin Gesellschaft f. Anth.*, 19th June, 1897.

able to show that the parts composing the face are more subject to variation than any others,[1] and in the prehistoric Egyptian skulls we may see this, just as we may see that they present the same variations of form—ellipsoid, ovoid, pentagonoid—as any other series of the species to which they belong. And the same may be said concerning the cranial capacity, in respect to which I have often shown that there are large capacities and small capacities, which may be considered as similar variations, when they are well defined.[2]

Although we only possess the averages and not the separate measurements of the skulls found by Petrie at Naqada, we have the measurements of those studied by Fouquet, though I regret that in his figures of the skulls he has not presented the *norma verticalis*, or view from above, the most important of all. Now if we compare the absolute length of the skulls examined by him with the length of the skulls from the Canaries studied by Verneau,[3] we shall have an opposed result in regard to size, not having the measurements of capacity, to those given of the relations of the Naqada skulls, concerning which it is said that the capacity is very much less than that of European, Mongol, or Egyptian, and distinctly different from the Guanche.[4]

Prehistoric Egyptian Skulls.	Length. *Male.*	Skulls from the Canaries.
Per Cent.		Per Cent.
6.49..... 5	170	7.....16.66
55.84.....43	180	19.....45.23
31.17.....24	190	15.....35 70
6.49..... 5	200	1..... 2.38

[1] *Crani Africani e Crani Americani*, Florence, 1892.

[2] Cf. *Specie e Varietà umane*, Turin, 1900.

[3] *Une Mission scientifique dans l'Archipel Canarien*, Paris, 1887.

[4] *Naqada and Ballas*, p. 52.

Prehistoric Egyptian Skulls.	Length.	Skulls from the Canaries.
	Female.	
Per Cent.		Per Cent.
2.13..... 1	160	3..... 7.90
36.17.....17	170	20.....52.63
55.32.....26	180	15.....39 47
6.36..... 3	190	0..... 0.0
	Both Series together.	
0.80..... 1	160	3..... 3.75
17.74.....22	170	27.....33.75
55.64.....69	180	34.....42.50
21.77.....27	190	15.....18.75
4.03 5	200	1..... 1.25
Total 100.....124		80.....100

The result is that the majority of the skulls have a length of over 180 mm. in the two series united, male with female; in the separate series the prehistoric Egyptian male skulls show a greater number at 180 and at 200, and a less number at 190, than those from the Canaries. In the female skulls the greater length is in favour of the prehistoric Egyptians; and thus the two series compensate each other, and we cannot say that on the average any great difference exists between them. Whether Petrie's Naqada skulls are different from the other prehistoric Egyptian skulls is merely a matter of computation, and we see that Petrie's skulls have on the average a length of 180.5, Morgan's and Fouquet's 181, while those from the Canaries have an average length of 178, that is, male and female together. This is enough to show that no great difference exists between the skulls from the Canaries and the prehistoric skulls of the Libyan or "new race." We could also show by measurements that no difference exists between Egyptian skulls and European skulls of the same type as those of the "new race" and the prehistoric Egyptians.

This criticism is necessary in order to prove that craniometry is a kind of kabbala and will prove anything and everything

one wishes ; what strange things it will demonstrate is shown by Fouquet, who brings in Indians, Hottentots, Kaffirs, Bushmen, and so on, in order to interpret prehistoric Egyptian skulls. It is the sense of reality which is lost in such craniometric elucubrations. In saying this, however, I have no wish to justify Reinach, who is more fantastic even than the others.

Leaving out of consideration what has been said concerning fine and coarse Egyptian types by Pruner-Bey first, and afterwards by Schmidt,[1] and coming to the capacity of the Egyptian skull, we find that the average capacity of pure Egyptian skulls is 1,394 c.c., with a maximum of 1,725 and a minimum of 1,155, while Petrie for his "new race" skulls gives two averages of 1,298 and 1,315 c.c., according as we include or exclude a series of small feminine skulls. But, as we have seen, the series oscillates between capacities of 1,100 and 1,500. The difference between the two groups is not great, and hence the introduction of a small series of skulls of extreme capacity is enough to raise or lower it.

In my own study of a series of 87 Egyptian skulls I found the high average of 1,445 c.c., with oscillations between 1,220 and 1,740. I must observe, however, that I only measured 18 of these—*i.e.*, those which I regarded as typical in my own classification, so that this average is only founded on 18 skulls, of which two were 1,710 and 1,740, thus suddenly raising the result. De Blasio,[2] however, who has measured all of these skulls that were measurable (71) gives a total average of 1,314.5, which is precisely that of Petrie's "new race." If, therefore, Petrie seeks anthropological proof of the distinction between the historical Egyp-

[1] Cf. *Africa*, cap. i.

[2] *Le Varietà umane nell' Egitto Antico*, Naples, 1893.

tians and the Libyan population in cranial capacity, no such proofs exists. The only proof, and an unanswerable one, is to be found in the comparison of forms between the skulls of the historical Egyptians —that is to say, the mummies—and the prehistoric race, whether we call the latter "new" with Petrie or "old" with De Morgan.

The skulls studied by Dr. Fouquet in De Morgan's

FIG. 9.—Skull from Hierakonpolis, *Beloides Libycus* (Macalister).

two volumes are viewed from the side and in front, not from above (*norma verticalis*), which, by the method which I have adopted for many years, would have served to determine the variety under which they should be classed, and enable a comparison to be made with Egyptian skulls of the historical epochs. Notwithstanding this, from the descriptions given by Fouquet and the views he presents, I can see in these

skulls the common forms, ellipsoid, pentagonoid, and ovoid, with variations corresponding to sub-variety,

FIG. 10.—Skull from Hierakonpolis, *Ovoides* (Macalister).

FIG. 11.—Skull from Hierakonpolis, *Pentagonoides acutus* (Macalister).

such as I have found in series in which the evidence was definitely presented. I can say the same of the

skulls represented by Flinders Petrie in his book on Naqada and Ballas. Being unwilling, however, to remain content with the information thus obtained, I have endeavoured to procure photographs of the skulls excavated by Petrie, in the *norma verticalis*. By the courtesy of Professor Macalister (in whose hands some of the skulls had been placed) I have

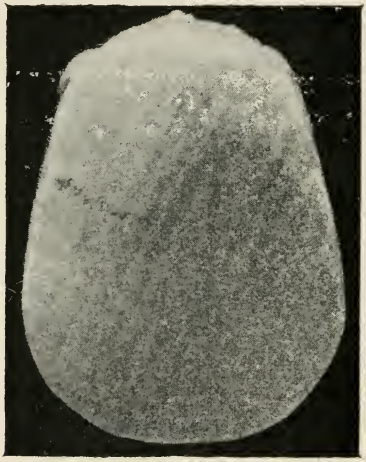

FIG. 12.—Ancient Egyptian Skull, *Beloides Ægyptiacus* (Sergi).

been able to obtain six, for which I here desire to thank Professor Macalister. Although the number is small, these six photographs present one of *beloid* shape (already known as *Sphenoides Ægyptiacus*), two *ovoid*, and three *pentagonoid*; craniometrically they are dolichocephalic or mesocephalic. Beloid is a new name,[1] and corresponds to *Sphenoides oblongus* in

[1] See my *Specie e Varietà umane*.

series I have previously examined ;[1] I now term it *Beloides Libycus*, because found among the skulls of Roknia (see Chap. VI). The ovoid and pentagonoid are not new among the forms found in the Mediterranean and in historical Egypt. I here present the three characteristic forms of prehistoric and historic Egyptian skulls (Figs. 9-11).

FIG. 13.—Ancient Egyptian Skull, *Pentagonoides acutus* (Sergi).

In six skulls it is impossible to find all the forms found in my series and in other large series of historical Egyptian skulls. The only characteristically Mediterranean form, however, which is lacking is the ellipsoidal, which is common in the race and was

[1] *Africa*, cap. i.

numerously represented among the 86 skulls I have examined elsewhere. Many ellipsoidal skulls are also to be found in Fouquet's series (Figs. 12-14).

Not only in this comparison of prehistoric skulls with those of the dynasties do we find that both show the same forms and therefore belong to the same

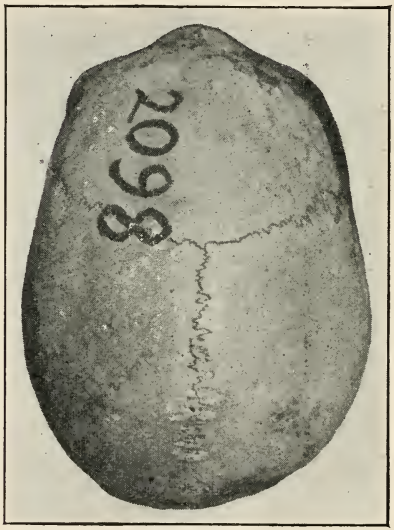

FIG. 14.—Ancient Egyptian Skull, xxi. Dynasty, *Ovoides* (Sergi).

stock, but also by an examination of the royal mummies of Deir-el-Bahari, which, as I have found, yield ellipsoidal and pentagonal forms as well as one beloid.

On these grounds the conviction has grown in my mind that there is no difference of race between the historical Egyptians and the men who preceded them,

the so-called Proto-Egyptians of Evans, and Morgan's "old race." Both alike belong to the Mediterranean stock, and are of African origin.[1]

[1] I must here state that Professor Petrie has, some time since, modified his opinion regarding the "new race." Speaking of objects found in the tombs of this population, he writes:—"These were at first temporarily assigned to a new race, as we knew nothing more about them; but further research had shown that they could now be safely assigned to the pre-dynastic stock about 5000 B.C., and even earlier." And he goes on to express an opinion which may here be noted, since it coincides with my own:—"In the graves of this aboriginal race there were found certain bowls of black clay with patterns imprinted upon them. These were of much importance in discussing the relation of their civilisation to that of others in the Mediterranean area." At the same time, Professor Petrie maintains his opinion that this population, now termed by him pre-dynastic, differs in type from that of historical times.—*Jour. Anth. Institute*, 1899, p. 202.

CHAPTER VI.

THE WESTERN LIBYANS.

Craniology of the Ancient Berbers—The Physical Characters of the Modern Population.

Craniology of the Ancient Berbers.—I have elsewhere classified the Libyans who now bear the general name of Berbers with various sub-divisions, into those of the Mediterranean, the Sahara, and the Atlas.[1] We need not here consider to what extent the Berbers have become mixed with the Arab invaders, for the mingling with Semitic elements has taken place in comparatively recent times; and if during antiquity invaders, who might more or less have altered the racial composition, entered Mediterranean Libya, it seems that little or no change actually occurred, for the Punic, Roman, and other introduced elements were eliminated and disappeared, it may be said, by natural selection, in a territory not propitious for colonisation; even to-day it seems that French mortality in Algeria is greater than native mortality. Nor does it appear that the natives easily mingle with their conquerors;[2] the Arabs, now so numerous in Algeria, Tunis, and Tripoli, have but partly changed the primitive population, either as regards physical characters or language. If foreign elements

[1] *Africa*, Parte II.

[2] Boissier, *L'Afrique Romaine*, 1896, pp. 303-308.

have not disappeared they have assumed the racial physiognomy of the region, the Punic, Roman, and Greek elements taking on physical characters of the Libyan type, so that to-day it is impossible to distinguish them from true native Libyans. This conclusion is on the whole accepted by Faidherbe,[1] and the skulls of the new and old Libyans bear witness to it.

FIG. 15.—Skull from Roknia, *Beloides Libycus* (Faidherbe).

Those Libyans who are to the west of Egypt and the Libyan desert I group under the name of Western Libyans, in order to distinguish them from the Egyptians whom I regard as also Libyans. General Faidherbe's ancient skulls belonging to this group appear in his study without any extensive apparatus of measurements and theories. The numerous figures

[1] "Recherches anthropologiques sur les tombeaux mégalithiques de Roknia," *Bull. Académie d'Hippone*, 1868.

he gives, however, and his excellent descriptions, render it an easy task to interpret the cranial forms of the twenty heads he studied.

According to my method these heads are of four varieties, with certain sub-varieties:—

I. BELOID: *a*, libycus (Fig. 15). II. ELLIPSOID (Fig. 16): *a*, Corythocephalus; *b*, Isocampylos. III. OOID: *a*, Latus; *b*, subtilis. IV. PENTAGONOID: *a*, Acutus (Fig. 17); *b*, subtilis (Fig. 18); *c*, asper; *d*, planus; *e*, convexus.

FIG. 16.—Skull from Roknia, *Ellipsoides* (Faidherbe).

All these forms are common to the peoples of the Mediterranean, including, as we have seen, the prehistoric and historic Egyptians. The Beloid are five in number, and are distinguished from the Egyptian and those of the Siculi by being long and slender, yet preserving the type. On account of this difference I call this form *Beloides Libycus;* we have already found an example of this type among the prehistoric Egyptians. As taken from Faidherbe the type is here shown. The Ellipsoid are four, all fine in form; one of these is the Corytho-

cephalus, also found in Egypt, the helmet-shaped skull; the others are the very common *Isocampylos*. Of ovoid shapes, *Latus* and *Subtilis* are found. The pentagonoids are numerous, but varying greatly.

If we consider these twenty skulls from the standpoint of craniometry, we find that eighteen are dolichocephalic and mesocephalic, and two brachycephalic; of the latter one has an index of 80.1, the other of 84.3. But when we consider that these two

FIG. 17.—Skull from Roknia, *Pentagonoides acutus* (Faidherbe).

indices belong to pentagonoid skulls which have a large breadth only on account of excessive development of the parietal bosses, we shall find no cause for surprise.[1] The pentagonoid is very broad, since it is low and flattened. Hence it can scarcely be said that these two skulls are foreign to the Libyan series.

[1] See Sergi, "Le forme del cranio umano nello sveluppo fetale in relazione alle forme adulte" (*Riv. di Biologia*, ii. 67, 1900), for the justification of this view.

The Physical Characters of the Modern Population.—Examining the modern populations, we should expect to find amid the primitive elements other elements foreign to the stock, since from most ancient times the Mediterranean has been slowly penetrated by large emigrations of many Asiatic racial elements, a fact of which we can find very clear evidence. The Arabs have, above all, attempted to change the anthropological physiognomy of Libyan Africa; the population of

FIG. 18.—Skull from Roknia, *Pentagonoides subtilis* (Faidherbe).

Arab origin in Morocco, Algeria, Tunis, and Tripoli, according to Carette, amounts to 4,800,000, while the Libyan Berbers are about 7,500,000 in number.[1] As I have already remarked, however, in spite of this enormous number of Arabs, the primitive population has preserved its own characters. In addition to this population, moreover, others have entered, especially

[1] Carette, *Origine et Migrations des principales tribus de l'Algérie*, pp. 440-441.

in the pure Mediterranean zone, above all from Europe, such as Italians, Spaniards, French, and other racial elements, variously mixed.

French anthropologists have chiefly investigated some of the modern populations of Mediterranean Africa, and, it seems to me, they have shown, in harmony with what I have said above, that it is not original and primitive, as we might be inclined to believe, but the result of immigration during various epochs.

Topinard endeavoured to determine Arab types and Berber types, and also mixed types, Arabised Berbers;[1] but his considerations seem to me very vague and uncertain, and incapable of yielding any positive result.

Collignon carried on an investigation, with reference to colour of hair and eyes, of the sedentary Tunis population; this was also important from the large number of individuals (2,030) examined. Of light eyes he found 3.5 per cent., of light hair, 0.4 per cent.; while of dark eyes there were 76 per cent., and of dark hair 92.9 per cent.[2]

Another study by Collignon deals with the general ethnography of Tunis, and contains observations on stature, as well as on the cephalic, nasal, and facial indices.[3] We must, however, confine ourselves to the cephalic index, because this has been used to support various theoretical views which overturn the natural order of anthropological facts in the Mediterranean,

[1] *Anthropologie de l'Algérie*, p. 616; "Étude craniométrique de Biskra," *Ass. française pour l'avance. des sci.*, 10th sess., Algiers, 1881.

[2] "Répartition de la couleur des yeux et des cheveux chez les Tunisiens sédentaires," *Revue d'Anthropologie*, 1888.

[3] "Étude sur l'Ethnographie générale de la Tunisie," *Bull. de Géographie historique et descriptive*, Paris, 1887.

and especially in Africa. The number of brachycephals, according to this author, is 132 out of 1,133 subjects examined, and they have an index of from 80 to 81, a very low one, because the author includes several subjects with a mesocephalic index of 79; this would be about 12 per cent. if all the 132 were true brachycephals. From my examination, however, it appears that the true brachycephals may be reduced to a very small number, which we may call sporadic, the infiltration of a foreign element. Thus I cannot follow Collignon, when, in accordance with the mistaken notion of French anthropologists that the Ligurians are brachycephalic, he regards these brachycephals as constituting a Ligurian element.

Bertholon, completing the observations of Collignon on Tunis,[1] also finds a brachycephalic element, so small, however, that it has no effect on the general average of the population whose cephalic index oscillates between 70 and 76.11, nor on that of 36 skulls whose average is 72.97. In a further study Bertholon, like Collignon, finds a Ligurian brachycephalic element in Africa.[2] Exploring the island of Gerba, he found among 330 subjects examined an index of 79.84, with an oscillation between 71 and 87. If we include among the brachycephalic the indices of 80 and upwards, we find that they amount to 33 per cent., while the dolichocephalic and mesocephalic are 66 per cent. Brachycephaly is therefore more marked here than Bertholon found it to be in Tunis and Khumiria.

[1] "Exploration anthropologique de la Khoumirie," *Bull. de Geographie*, 1891.

[2] "Exploration anthropologique de l'isle de Gerba," *L'Anthropologie*, viii., 1897.

If we compare the results obtained from the skulls of Roknia with Collignon's and Bertholon's observations among the modern populations, we find, as we might expect, that while among the former there are no brachycephalic skulls of foreign type (since, as I have already remarked, the two pentagonoids are of Mediterranean type), among the cranial forms of the modern populations we discover brachycephalic heads of Asiatic type, such as we meet more or less numerously or sporadically in Europe. That was to be expected, because Northern Africa has received Asiatic and European colonies which naturally were not composed of racial elements formed from one type only. The same fact may be observed in other parts of the Mediterranean, as in Sicily[1] and in Spain, where the brachycephalic Asiatic has penetrated from prehistoric ages.

I may here remark that my own observations, carried on in accordance with the method already referred to, prove that the old Libyan shapes are perpetuated among the modern Berbers, mingled with a foreign element which has penetrated during the course of ages. In the Anthropological Museum at Rome there are twenty Tunis skulls which I have studied and classified, and I have ascertained that they repeat the well-known forms found in Egypt and elsewhere in Africa.

I. ELLIPSOIDES: 1, Ell. biconcavus; 2, Ell. brevifrons; 3, Parallelepipedoides africus. II. OVOIDES: 1, Ov. latus; 2, Ov. subtilis; 3, Ov. platymetopus. III. PENTAGONOIDES: 1, Pent. planus; 2, Pent. declivis; 3, Pent. subtilis; 4, Acmonoides siculus; 5, Pent. acutus. IV. BELOIDES ÆGYPTIACUS. V. TRAPEZOIDES: 1, Trap. longissimus; 2, Pyrgoides romanus.

[1] See Sergi, "Crani preistorici della Sicilia," *Atti Soc. rom. di Antrop.*, Roma, 1900.

I. *Ellipsoidal.*—There are only two skulls of this variety, with differences in their special characters; they belong to two sub-varieties: *Ell. biconcavus* and *Ell. brevifrons.* The first is from Sfax; it is old, of medium capacity, and not easy to measure, being rather rotten; the character that makes it biconcave is the fact that the two temporo-parietal sides, instead of being flat or protuberant, as usually happens, are concave, so that the ellipse approximates the figure 8. This singular form might seem pathological, and would have seemed so to me if I had not been warned by previous observation of other skulls of similar form in the modern Roman collection, and also among very ancient skulls.

No. 1387, male, cephalic index 69.2, facial index 45, nasal index 62. It will be seen that this is a very narrow skull, with a short face, platyrhine but not prognathous.

The *Ell. brevifrons* form was described by me among the old Roman skulls,[1] and need not be described again; this African skull is of the same type, and comes from Begia.

No. 1376, male, capacity 1420, cephalic index 71.3, facial index 50, nasal index 48.2.

3. *Parallelepipedoides africanus*, described by me elsewhere as a skull of fine proportions, superior to the *Sardiniensis*, and found in Abyssinia.[2]

No. 1379, of Gabes, masculine, capacity 1230, cephalic index 72.7, facial index 53, nasal index 42.3.

II. *Ovoid.*—1. Of the *Ov. latus*, on various occasions described among skulls of the Mediterranean and East Africa, two were found: No. 1377, of Biserta, masculine, capacity 1449, cephalic index 80.7, facial index 52.8, nasal index 45.1; No. 1391, of Tabarca, masculine, capacity 1280, cephalic index 77.3, facial index 54, nasal index 52.8. 2. Of the *Ov. subtilis*, also common in the Mediterranean and East Africa, were three examples: No. 1392, of Bab-Gurgiani, masculine, capacity 1444, cephalic index 73.5, facial index 56, nasal index 45.3; No. 1385, of Monastir, feminine, capacity 1300, cephalic index 72.8, facial index 52, nasal index 45.1; No. 1393 of Bab-Oliva, infantile, capacity 1270, cephalic index 76.2, facial index 55, nasal index 53.7. This last had not attained definite shape, and showed, especially

[1] "Studi di antropologia laziale," *Accad. Medica di Roma*, 1895.

[2] In *Africa*, *loc. cit.*

in the parietal bosses, an angularity which is not characteristic of ovoid skulls. 3. *Ov. platymetopus*, so called because the frontal bone is flattened and slopes forward; it has much resemblance with the *Ell. platymetopus* of Egypt and Abyssinia; No. 1388, of Susa, feminine, capacity 1290, cephalic index 76.2, facial index 53 4, nasal index 39 2, and characteristic as a type of this sub-variety; No. 1382, rather youthful and not yet definitely formed, but belonging to this type; capacity 1415, cephalic index 78.6, facial index 74.9, nasal index 43.8. III. *Pentagonoids.*—This category always contains many sub-forms,

FIG. 19.—Skull from Ain-Draham, *Pentagonoides subtilis* (Sergi).

and it is not surprising that the five skulls of the group belong to five different classes. 1. *Pent. planus*, No. 1379, of Jeriana, is infantile but typical, with cephalic index of 75.4, nasal index 47.4. 2. *Pent. declivis*, so called because the curve of separation between the frontal and cerebral regions up to beyond the bregena for at least five or six centimetres backwards, forms an inclined plane with almost parallel sides. The parietal bones are sharp, and much directed backwards, and the anterior sides of the pentagon are very long compared to the posterior sides.

It is a singular shape, but resembles some ovoid skulls found in Sicily.[1] No. 1381, of Kerwan, male, capacity 1440, cephalic index 73.3, facial index 51, nasal index 46.3. 3. The *Pent. subtilis* was described by me among the skulls of Abyssinia as found among the Bogos; this from Tunis is very similar (see Fig. 19). No. 1375, from Ain-Draham, female, capacity 1070, cephalic index 70, facial index 50, nasal index 45.3. 4. *Acmonoides.*—This form really has five sides, but the two posterior are shortened, and the angle formed by the occipital is smaller

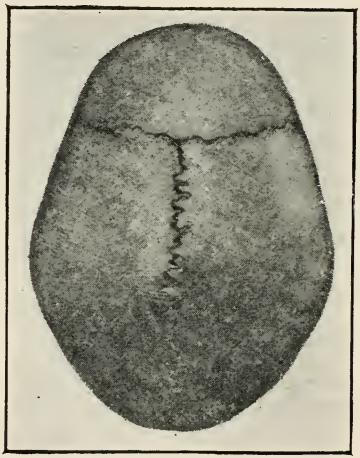

FIG. 20.—Skull from Tunis, *Pentagonoides acutus* (Sergi).

than that of the acute pentagonoid. No. 1394, of Zaquan, male, capacity 1335, cephalic index 72.8, facial index 50, nasal index 45.5. 5. *Pent. acutus* (see Fig. 20). No. 737, capacity 1350, cephalic index 73.4, facial index 51, nasal index 50. IV. *Beloid.* —There was only one skull of this class—already described in dealing with Egyptian skulls and the Libyans of Roknia—and that was infantile, and not well defined in type. No. 1390, from Tabarca, infantile, probably female, cephalic index 74.7, facial

[1] See Moschen, "Quattro decadi di crani moderni dalla Sicilia," *Atti Soc. Veneto-Trentina*, Padua, 1893, fig. 16.

index 56.7, nasal index 50. V. *Trapezoids.*—*Trapezoides longissimus.*—This new form of trapezoid was exhibited in two skulls, one male, the other female, but perfectly alike except in sexual characters. They are very long and low, while typical trapezoids are short and rather high in relation to length. They have receding frontals, and the occipital is protuberant behind; they are prognathous. It is the first time I have seen such a shape, and I cannot express any opinion about it until further observations are possible. No. 1384, from Megez-el-Bab, male, capacity 1435, cephalic index 69.5, facial index 56, nasal index 51.8. No. 1380, from Gerba, female, capacity 1330, cephalic index 70.8, facial index 59, nasal index 46. 2 *Trap. pyrgoides*, or tower-like. No. 1383, from Megez-el-Bab, male, capacity 1320, cephalic index 82.1, facial index 55.2, nasal index 45.3. No. 1389, from Tamezart (Gabes), male, capacity 1325, cephalic index 76.8, facial index 53.6, nasal index 47.1.

In comparing the skulls from Roknia with mine from Tunis it is at once seen that (except the trapezoids) all belong to the same varieties, the differences being found only in the sub-varieties, as is natural in such small series as these. If we make a wider comparison, between Egyptian skulls and those of other Mediterranean populations, we shall find that the sub-varieties are common to every population in the Mediterranean. In regard to the cephalic index I must say that only two brachycephalic skulls are found in the Tunis series, but one is a broad ovoid (cephalic index 80.7) and therefore of Mediterranean type; the other (the pyrgoid) alone is foreign. It is necessary to call attention to this fact, since Keane, in his recent work, *Man Past and Present*, considers that the brachycephalic element found amidst the European dolichocephals is partly of African origin and partly of Asiatic origin. Now we have seen that it is only in modern times that brachycephals have been found in North Africa in any considerable

number, and then only as a subordinate type; in antiquity they were exceptional and sporadic, not only in Africa but throughout the Mediterranean. If we examine the skulls of East Africa, of Abyssinia, of Somaliland, of the Gallas, a brachycephalic skull is always very exceptional.[1]

In the Sahara, again, and in the west towards the Atlantic—that is, in the region including Libyans or Berbers—all the information that reaches us only confirm the results already reached regarding the Mediterranean Libyans. Unfortunately I have no personal observations to present regarding the forms of the skull in these regions, except only as regards three skulls from the island of Arguin on the Atlantic coast of Africa, and sufficiently near the mainland to be considered as an appendage of the Sahara and of Magreb, which under some aspects may be considered an extension of Morocco. I know that three skulls are too few, but with my zoological method they express something and furnish an important indication. They belong to two of the commonest Mediterranean varieties.

One is *Ell. depressus*, capacity 1515, cephalic index 72.2, height index 66.3, facial indices 58.1 and 96.8, nasal index 43.1. The other two are ovoids: *Ov. Ægyptiacus*, capacity 1450, cephalic index 72.5, height index 72, facial indices 56 and 93, nasal index 45.2; *Ov. lophoides*, on account of a protuberance on the cranial roof, capacity 1385, cephalic index 77.6, height index 76.8, facial indices 54 and 88.7, nasal index 54.3. This last skull, however, is hybrid since the face is negroid.

But to compensate for the absence of skulls we have observations on the living face. These reveal the presence of the varieties of the Eurafrican species

[1] Cf. *Africa*.

found in Hamitic Africa and throughout the Mediterranean—that is to say, the forms of the face I describe as ellipsoid, ovoid, pentagonal, and resembling a parallelogram, while the face of the *Ovoides Ægyptiacus* of Arguin is dolicho-ellipsoid, and the nasal index is leptorhine in two skulls and meso-leptorhine in the living.[1]

[1] For details, see *Africa*, Parte II.

CHAPTER VII.

THE CANARY ISLANDS.

The Origins of the Canary Population—Physical Characters of the Population.

The Origins of the Canary Population. — It seems unnecessary to refer to the opinions of ancient historians concerning the origin of the population of the Canary Islands, for they are merely conjectural and often fantastic, being sometimes united with ill-founded traditions. Investigations worthy of attention only begin with the naturalists who in modern times have studied the islands and their products and inhabitants with scientific methods. We owe to the researches of Berthelot, Broca, Faidherbe, and Chil, in the first place, and afterwards to the more special investigations of Verneau and more recently of Meyer and Luschan, whatever light has been thrown on the populations who have inhabited the Canary Islands.[1]

[1] Berthelot, *Antiquités Canariennes*, Paris, 1839; Baker Webb and S. Berthelot, *Histoire naturelle des îles Canaries*, Paris, 1839; Broca, *Revue d'Anthropologie*, iv., 1874; Faidherbe, *Quelques mots sur l'ethnologie de l'Archipel Canarien*, Paris, 1875; Chil y Naranjo, *Estudios Históricos, climatológicos y patológicos de las Islas Canarias*, Las Palmas, 1876-89; Verneau, *Rapport sur une Mission scientifique dans l'Archipel Canarien*, Paris, 1887; *ib.*, *Cinq années de séjour aux îles Canaries*, Paris, 1891; *ib.*, "De la pluralité des races humaines de l'Archipel Canarien" (*Bull. Soc. Anthrop.*, 1878); *ib.*, "Habitations et sépultures des anciens habitants des îles Canaries" (*Revue d'Anthrop.*), 1879; *ib.*, "Les Sémites aux îles Canaries" (*Bull., cit.*,

The primary problem has been that of the origins of the Canary population. Berthelot, founding his opinion chiefly on language, believed that it was derived from tribes of the western Atlas, Broca that it came from North Africa, and Faidherbe that it is a mixture of Wolofs, Libyans, blond Europeans, and even Canaanites. Verneau attempted to prove that the Canarians belong to the Cro-Magnon race and emigrated from the north. It is useless to refer to the opinions of those who believe that the race is of American origin or constitutes a residuum of the population of the poetic Atlantis, for the origins of a people can only be learnt by the study of their physical and ethnographic characters. The method that has guided us so far is that of following the distribution of such characters, especially the physical traits, in the various regions, and noting the resemblances or dissimilarities which unite or separate a population in relation to a stock with well-established characters. If a population is studied by itself, without relation to others, it cannot be classified, and we cannot learn its origins. Let us therefore ask what are the physical characters of the Canary population.

Physical Characters of the Population.—Dr Chil measured 169 ancient skulls from Grand Canary, Teneriffe, Gomera, and Ferro, finding among them

1881); *ib*, "Sur les anciens habitants de la Isleta"; Meyer, *Die Insel Tenerife*, Leipzig, 1896; "Ueber die Urbewohner der Canarischen Inseln," in *Adolf Bastian Festschrift*, Berlin, 1896; Von Luschan, "Anhang über eine Schädelsammlung von den Canarischen Inseln," Meyer's *Die Insel Tenerife*: "Drei trepanirte Schädel von Teneriffe" (*Verhandlungen der Berliner anthrop. Gesellschaft*, 1896); Virchow, "Schädel mit Carionecrosis der Sagittalgegend" (*Verhand., cit.*).

only 8 that were brachycephalic, the average index for the whole number being 76.3. It varied a little in the different islands—in Grand Canary 76.7, in Teneriffe 78, in Gomera 77.2, in Ferro 73.2. He concludes that the race which peopled the Canaries was dolichocephalic; and he believes that it was related to the troglodytes of the Homme-Mort Cavern, of Cro-Magnon, of Vezère, as well as to the Spanish Basques, the Berbers, the Egyptians, and the Corsicans; also that the race was the same throughout the Archipelago, the variations being due to mixture among the invaders. He also believes that Grand Canary possessed the real type of the pure aboriginal race, while the Teneriffe skulls belonged to a coarser type. He attaches no importance to the blond element found in the Archipelago, since such an element is found also in Egypt and among the ancient Libyans.[1]

Very different from Dr. Chil's conclusions are those of Dr. Verneau, who has written an important work on a large number of skulls and long bones belonging to the ancient inhabitants of the islands in order to reach decisive conclusions. As is known, the ancient colonists of the Archipelago of the Canaries were called Guanches, and Verneau proposes to determine whether or not other races were mingled with the Guanches. Stature in the first place and then cranial form have indicated to Verneau that the Guanches were mixed with other racial elements. It was in Teneriffe that the Guanche element predominated in a least mixed shape; Gomera, Grand Canary, and Ferro, he believes, contained a population that was mingled in various proportions. At Teneriffe a high

[1] *Op. cit.*, vol. ii., p. 305 and plates; also pp. 273 *et seq.*

stature prevails among the men, 45.8 per cent. being between m. 1.70 and m. 1.86, and 47.8 per cent. between m. 1.65 and m. 1.70; the general male average is 1.70, while in the female sex it is only about 1.53. At Gomera a low stature predominates, 67.69 per cent. being m. 1.60 and less. At Grand Canary the proportion varies according to locality, at Isleta 58.90 being of high stature and 5.90 of low, while at Santa Lucia, at Aguimes, and at San Bartolomo the proportion varies between 28.65 and 42 per cent. Taken altogether, the island shows an average stature, as at Teneriffe, of m. 1.70 with a maximum of m. 1.81 and a minimum of m. 1.58. In the island of Ferro the proportion descends; from 1.65 to 1.75 it is from 23.33 to 45.10 per cent., while the low stature oscillates between 28 and 51 per cent.

From these data Verneau argues the presence of many different races of great and small stature. Since he attributes the high stature to the Guanches, it follows that Teneriffe had a more homogeneous population of Guanche stock with few foreign elements, while Grand Canary had a very varied population; this he attempts to prove also by examination of the skulls.

If we consider cranial capacity, the male skulls of Teneriffe are large, with an average of 1,672 c.c., with a maximum of 1,900 and a minimum of 1,410; the female skulls have an average of 1,432 c.c., with a maximum of 1,600 and a minimum of 1,315. Not less high is the capacity of the Gomera skulls, with an average of 1,607 (maximum 1,627, minimum 1,440) for the males, and an average of 1,349 (maximum 1,375, minimum 1,255) for the females. At Grand

Canary the total average was 1,513 with wide variations. Ferro has also yielded masculine skulls with capacity varying widely between 1,280 and 1,625, and feminine skulls between 1,260 and 1,685; in Palma the masculine range is between 1,335 and 1,735.

As I have elsewhere often stated (in my *Varietà Umane*), I believe that wide oscillations in cranial capacity cannot be regarded as due to individual variation, and therefore, with Verneau, I accept the presence in the Canaries of many different racial elements. This would confirm the indication already supplied by the differences in stature. I would only observe that there is a divergence between the data of stature and those of cranial capacity as regards Gomera, where the capacity equals that found at Teneriffe, and at Grand Canary also the cranial capacity, like the stature, is relatively high, though the variations are greater than at Teneriffe.

We may turn to the data furnished by the islands as regards cephalic index, following Verneau. (I reduce the quinary division of the French to the simpler ternary division of the Germans.) At Teneriffe Verneau found:—

Male Skulls.

	Per Cent.
Dolichocephalic	37.00
Mesocephalic	40.70
Brachycephalic	22.30

Female Skulls.

Dolichocephalic	16.67
Mesocephalic	58.33
Brachycephalic	25.00

At Gomera:

Male Skulls.

Dolichocephalic	15.39
Mesocephalic	45.15
Brachycephalic	38.46

Female Skulls.

	Per Cent.
Mesocephalic	25.00
Brachycephalic	75.00

At Grand Canary are found, according to locality:

Dolichocephalic . .	from 25.00 to 50.00
Mesocephalic . .	„ 17.00 „ 75.00
Brachycephalic . .	„ 5.88 „ 12.50

At Ferro:

Dolichocephalic, in the east 30.00, in the south 35.30
Mesocephalic, „ 70.00, „ 32.35

At Palma we find dolichocephalic and mesocephalic with variations in the two sexes between 71.96 and 78.53.

The largest number of brachycephals is to be found at Gomera, and especially among the women; only a few are found among the Grand Canary skulls; none at Palma and Ferro. The population of the archipelago would seem to be more homogeneous considered according to cephalic index than according to cranial capacity or stature.

As regards the facial index, I have thought it desirable to reduce the measure of facial height (taken by Verneau from the ophryon) to the height from the naso-frontal suture, a method I have adopted for many years past. I have obtained it by adding the nasal height to the inter-maxillary height, measured by Verneau.

In his results Verneau gives averages together with the maxima and minima, but seldom the individual data. Compelled to follow him, I have found great divergence of results. His averages, as well as his maxima and minima, but rarely correspond to those obtained by my method, which is more exact since it has fixed anatomical points. For Teneriffe I have obtained average male indices of 52 to 52.9 (maxima 55, 56.5, minima 47.7, 50); for Gomera indices of 59, 57, 53, 48; for Grand Canary average indices of 52.5 to 57.7 (maxima 59.80 and 60, minima 48.7 and 51.2); for Ferro averages of 52 and 53 (maxima 54, 56, 58, and minima 48.8, 50); for Palma the indices oscillate between 50.4 and 55.6.

Summarising the figures obtained as regarding facial index, it appears that the greater number show the presence of the elongated or leptoprosopic type of face, this type often showing extreme forms with indices of 55 to 60; the chæmoprosopic or broad-faced are rare, only 9 times in 73 cases, or at a percentual rate of 12.3. These results lead us to conclusions very unlike those of Verneau, who believes that the true Guanche type possesses a short broad face.

In Verneau's opinion the Guanches have been variously mixed with the racial elements which perhaps arrived at the same time to colonise the islands. He considers that the Guanches are of the Cro-Magnon race, and that at Teneriffe they present its characters in stature, skull, and face; mingled with this he finds a Semitic element whence results the mixed type most common in the island. He adds a third but less numerous type with a short head and broad nose. At Teneriffe the true Guanche race is most numerous, while at Gomera it is scarcely found at all. At Grand Canary, where Chil finds the Guanches present, Verneau only finds a chaos of racial elements. Although dolichocephaly is common, and brachycephaly rare, the stature is high on the whole, and hence he believes that here, as at Teneriffe, only to a greater extent, a Semitic element has entered. Thus, taking the island altogether, he finds: (1) Guanches, (2) Semites, (3) crosses between these two, (4) a type with short head and brow, of unknown origin, (5) another type, perhaps Berber, at the north of the island. At Ferro and Palma the phenomena are similar.

A final investigation is concerned with the colour of the skin, eyes, and hair. Tradition refers to blonds

in the Canaries; the poet Viana represents the princess Dacil with Teutonic complexion; Viera y Clavijo, Berthelot, and Millares state that they have seen mummies with blond hair. Verneau saw some with red hair, which he attributes to the action of mummification, as in Peruvian mummies. At the same time he is inclined to admit the existence of blonds at Teneriffe, where he has met children, and sometimes adults, with blond hair and also with blue eyes. Among the adults some have chestnut hair, more or less light, while some are real blonds. He accepts these blonds without hesitation as descendants of the ancient Guanches.

If we judge Dr. Verneau's conclusions by his facts, regarded in the light of other craniological criteria than the rough method of the cephalic index or stereotyped shapes, we shall certainly find some of his inductions inacceptable. Verneau exerts himself to find the pentagonal or sub-pentagonal forms as necessary characteristics of the Cro-Magnon skull, and when he finds ellipsoid or ovoid skulls he sees Semitic or hybrid skulls. I have often shown that even amongst the most homogeneous populations there is no single cranial type or single stereotyped form; Cro-Magnon skulls present varied types, and not merely that of the celebrated old skull on which some would stereotype all the individuals belonging to the same race.

More than this: Verneau finds that the Guanche type, as he conceives it, is unlike that of the Berbers; and therefore he considers it European, and in addition blond and white, with light eyes like a Teutonic type, although, according to his own statements, there are few blonds now in the islands, and

no evidence of blondness among the mummified human remains. As regards the face, he believes that the Guanche type was broad and short, like the Cro-Magnon skull. But by his own measurements we have found that the indices are leptoprosopic and even exaggerated, up to 60.

I believe we may conclude, on the basis of Verneau's own observations, that the population of the Canaries was mingled before the conquest, and that there were two chief elements, one of Guanches, dolichocephalic and mesocephalic, with leptoprosopic face, the other an undetermined racial element with short head, short and broad face. There is also a third element, of secondary rank, dolichocephalic and mesocephalic, short face, short stature, but we are not entitled to call it Semitic. If such an element were present it would be difficult to distinguish it clearly. Let us, however, turn to the opinions of two other more recent observers, Meyer and F. von Luschan.

Meyer has himself summarised his ideas and those of Von Luschan concerning the Guanches, whom they believe to have been blonds of white skin, and distinguished from two other types which also inhabited the Canaries. Thus there would be three physically different types.

The first type is formed by the Guanches, whose stature, according to those investigators, was between m. 1.70 and 1.90, bodies robust and head large, markedly dolichocephalic. The forehead was well developed, the occiput strong and low, the face low and broad, the eyes large, the jaws very wide, the cephalic index is 78, the vertical index 73. The nose was relatively short, the teeth but slightly prominent. On the whole, the skull has most resemblance to the

prehistoric type of Cro-Magnon. The hair was blond, reddish, or light chestnut; the skin and eyes light. This Guanche type was diffused throughout all the islands, but was purest and most numerous in Teneriffe.

The second type was of stature m. 1.65 to 1.67, slender in body, and with a delicate mesocephalic skull. The face was long and narrow, the nose narrow. The cephalic index is 81, the vertical index 73. A resemblance to the Hamitic skull cannot fail to be recognised. The hair was black, the skin a light brown, the eyes dark. This type is specially found at Grand Canary, Palma, and Ferro, but not at Gomera.

The third type was of shorter stature on the average than the two previous types. The bones were slender, the skull hypsibrachycephalic, very short, broad, and high. The face was long and narrow, the nose narrow and straight. The cephalic index was 84, the vertical index 79.5. This cranial shape is entirely identical with that called by Von Luschan the Armenoid pre-Semitic of Western Asia. The colour of hair, skin, and eyes most probably corresponded with that of the brunet types of Western Asia. This type was widespread and pure at Gomera, where the second type was absent, but is also traceable in the rest of the archipelago.

If we classify these three types, these investigators conclude, we have: (1) Dolichocephals related to the very ancient Cro-Magnon race; (2) Mesocephals of Hamitic relationship; (3) Hypsibrachycephals related to the pre-Semitic Armenoids of Western Asia.[1]

[1] "Ueber die Urbewohner der Canarischen Inseln," *Festschrift für A. Bastian*, Berlin, 1896; cf. Von Luschan's appendix to *Die Insel Tenerife*, Leipzig, 1896.

It will be seen that the two distinguished German authorities differ considerably from Verneau; they accept Verneau's Guanche type entirely, but the delicate type with a cephalic index of 81—that is, brachycephalic, not mesocephalic—is for them Hamitic, and the brachycephals of 84 are Armenoid.

Let us consider Von Luschan's data. He finds among 50 skulls 1 dolichocephalic, 22 mesocephalic, 27 brachycephalic, following the classification of the Frankfort Convention; for the facial index (following the same classification) we have 40 leptoprosopic (*i.e.*, in the proportion of 80 per cent.) and 10 chamæprosopic (in the proportion of 20 per cent.). If, however, we adopt my classification we have the indices in the proportion of 70 per cent. leptoprosopic, 35.22 mesoprosopic, and 8 per cent. chamæprosopic (only 4 cases). These figures are founded on Von Luschan's own data;[1] and they agree with the observations of Verneau, who at Teneriffe in 18 cases only twice found chamæprosopic (between 47.7 and 48.7), though Teneriffe is the island in which, according to these authors, the Guanche elements are most numerous. At Gomera it was only found once among 13 cases, at Grand Canary twice among 28, at Ferro three times among 18, at Palma not at all.

The short and broad type of face is therefore very seldom found, while the type with long or even very long face, which we have learned to know among the Hamites of the whole African zone from east to west, is common and widely diffused. But among the Hamites we have only exceptionally found a skull with a cephalic index of 81; it is usually dolichocephalic and mesocephalic. I will here present the

[1] See Meyer, *Die Insel Tenerife.*

results, as regards skull shape, of an examination of the small collection of crania from the Canaries possessed by the Rome Museum of Anthropology. Here is the list:—

I ELLIPSOIDS: 1, *Ell. corythocephalus;* 2, *Ell. proophryocus;* 3, *Parallelepipedoides*, (*a*) *africus*, (*b*) *canariensis.* II. OVOIDES: 1, *O. lobatus.* III. PENTAGONOIDS: 1, *Pent. planus;* 2, *Pent. acutus.* IV. PLATYCEPHALUS: 1, *Stenoplatycephalus.* V. SPHENOIDS: 1, *Sph. tetragonus parvus;* 2, *Sph. cyrtocephalus oblongus;* 3, *Sph. canariensis.*

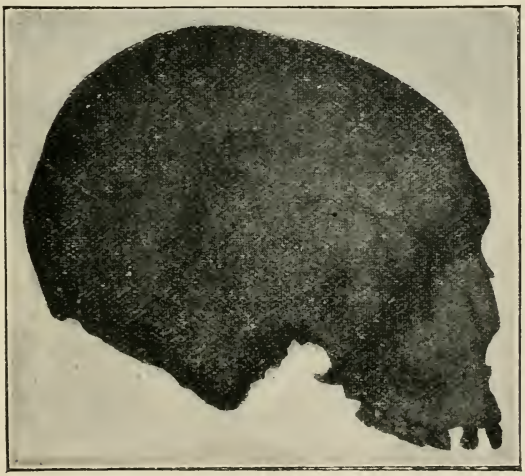

FIG. 21.—*Sphenoides canariensis* (Sergi).

It is unnecessary to describe all the skulls of this little series, as their characters may be at once inferred from their names, and the reader who has followed me so far will recognise that many of them are common to the Mediterranean. I will only say a few words concerning those that deserve special attention. The *Parallelepipedoides canariense* is distinguished from the *Africanus*, elsewhere described,[1] by being larger, showing a

[1] See *Africa.*

more complete parallelism and a very developed frontal bone, elevated above the plane of the cranial vault. The *Stenoplatycephalus* is a small low flattened skull, with the characters found in the microcephalic crania of the Mediterranean, and in Russia at the Kurgan epoch.[1] This cranial form thus found in the midst of ancient skulls from the Canaries, has an important bearing, in my opinion, on the African origin of European pigmies which I suggested some years ago. Another type which merits special attention is the *Sphenoides canariensis;*

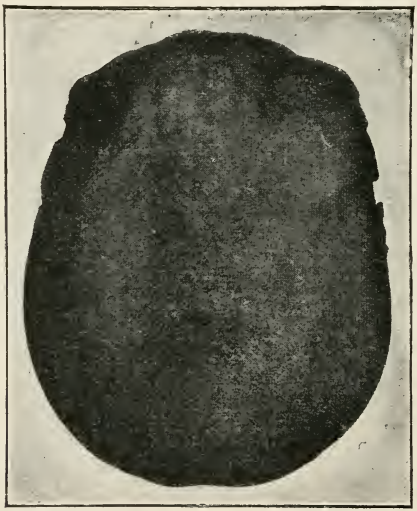

FIG. 22.—*Sphenoides canariensis* (Sergi).

this is a male skull of capacity 1,530 c.c., cephalic index 81.3, vertical index 71.8, facial index 53.5, nasal index 43.6 (Figs. 21, 22). This wedge-shaped form approaches the round sphenoid,[2] but it is broader in front, low like a platycephalic skull, and with very short and receding forehead; the large mastoid apophyses are so placed that the skull inclines back-

[1] Sergi, *Varietà microcefaliche e Pigmei di Europa*, Roma, 1893; *ib.*, *Specie e Varietà umane*, Turin, 1900.

[2] Cf. Sergi, *Studi di antropologia laziale*, Rome, 1895.

ward instead of ascending in front This skull is unique in the collection, but I have found many similar in Von Luschan's collection at Berlin, and it is represented in Plate I. of Meyer's memoir.[1] This, it appears to me, is the skull which Von Luschan terms Armenoid.

It may be well to point out that the Armenoid type was described by Von Luschan on the occasion of his travels in Lycia and in his study of the Tachtadshy skull. This skull, though brachycephalic, has a different form; generally the occiput slopes vertically or a little obliquely so as to approach the vertical; the summit of the cranial height is much behind the bregma, and from the summit there is an oblique descent towards the forehead. Viewed from the side, the skull has a trapezoidal appearance.[2] Mine and those of Meyer do not altogether resemble the Armenoid type of Asia Minor, and it seems to me, therefore, that Meyer's third type from the Canaries cannot with any probability be described as Armenoid. I call it *Canariense*, because I have never seen a similar cranial form elsewhere. I do not wish to imply that it arose in this archipelago, but it is foreign to the Hamitic type which mainly dominates here.

From a craniometric point of view the skulls of my series comprise: 2 dolichocephals, 6 mesocephals, 4 brachycephals with the minimum brachycephalic index (81); as regards facial index 4 are leptoprosopic (average index 54.3), 4 mesoprosopic (average 50.4), and 4 chamæprosopic (average 81.5); as regards nasal index there are 5 leptorhine (average index 44.9), 3 mesorhine (average 51.3), 4 platyrhine (average 55.2).

[1] See also Fig. *c* in appendix to Meyer, *Die Insel Tenerife*, p. 298.

[2] Cf. "Die Tachtadschy," *Archiv für Anthropologie*, xix., 1891, figs. 15, 16, 17.

When we consider these from the point of view of form, all the varieties, with the exception of one subvariety, the *Sphenoides Canariensis*, are found to be common to the groups of Hamitic stock in Africa and in the Mediterranean among the populations of Southern Europe. It is sufficient to compare the list of the Canary varieties with the other lists to become convinced of the resemblance. This is to me a satisfactory result, considering the small number of skulls, and shows the community of origin and of stock between the inhabitants of the Canary Islands and the Hamites.

With this general affirmation, however, I do not wish to deny that among the Hamites of the Canaries there were not other and foreign racial elements. The differences in stature, in cranial capacity, and in part in cranial and facial shape, indicate the presence of mixture, as affirmed by Verneau, Meyer, and Von Luschan.

It is difficult to know the origin of the type I have called *Sphenoides Canariensis*. At first, noticing that the brachycephals in the skulls studied by Verneau were chiefly among the women, I thought that this type might have owed its origin to the introduction of slave women into the archipelago, and that their offspring, including males, were brachycephalic. It would still, however, be difficult to tell where they came from, and I think it useless to invent new hypotheses.

The list includes the *Stenoplatycephalus*, of small capacity, and with similar if not identical characters, which I have found in the Mediterranean and in Russia among the pigmies. Although this skull has a higher capacity than among the pigmies, I have

no hesitation in regarding it as of the same type and variety. If that is so, this skull indicates that the pigmies came into the Mediterranean through Africa, and hence with other racial elements passed into the Canaries, where they help, to a large extent, to explain the presence of very low statures.

What shall we say, finally, as to the origin of the Guanches, concerning whom so many theories have been set forth? Admitting that they have characters in common with the residue of the so-called Cro-Magnon race, shall we agree with Verneau that they migrated from the north? Contrary to that opinion, I have concluded that primitive Europe received its population in large part from Africa; as regards the Canaries, we may conclude with still greater reason that the primitive population migrated from Africa, and constituted the last expansion of African emigration towards the west. This is confirmed by the ethnology, and especially by the linear writing of the so-called Libyan type. The brachycephals constituted a foreign element of unknown origin.

CHAPTER VIII.

SYRIA AND ASIA MINOR.

The Hittites—The Armenoids of Lycia—Cyprus—The Phœnicians.

The Hittites.—We have no reason to suppose that the movement of emigration in the east of Africa stopped at the Nile valley; we may suppose that it extended towards the east of Egypt, into Syria and the regions around Syria, and thence into Asia Minor. It is possible that in Syria this immigration encountered the primitive inhabitants, or a population coming from northern Arabia, and mingled with them or subjugated them.

After the celebrated Oriental discoveries in the Mesopotamian Valley, and the elucidation of the Egyptian monuments, came the discovery in Asia Minor and Syria of other monuments and of inscriptions in unknown and indecipherable hieroglyphics. They showed that a powerful and energetic nation at a very remote period appeared as it were between the two oldest empires of the world in the character of a terrible enemy. This powerful nation was that of the Kheti, Khatti, or Hittites—the name was variously pronounced by different peoples—and their racial components were of older date than the Phœnician dominion in Syria and the Hellenisation of Asia Minor. They constituted a pre-Phœnician and pre-Hellenic power in the Eastern Mediterranean.

To explain the enigmas presented by the Hittites studies of all kinds are not lacking. English, German, and American scholars have devoted their most serious attention to the matter, and among Italians Father Cesare De Cara has written two very interesting works, noteworthy for the erudition and logical reasoning employed in establishing the facts and drawing conclusions from them.[1] It is agreed that the language of the Hittites was not Semitic—though almost nothing is known of it—nor Aryan; it is suspected to be a Hamitic tongue, though such a statement certainly has only a vague meaning. Such De Cara believes it to be, and he relates it therefore to Egyptian and to Babylonian, which for him is also Hamitic, and he endeavours, with this conviction, to interpret the racial, geographical, and other names by comparison with the Egyptian language. This is a new method which will, I believe, furnish important results for the ethnography of the Mediterranean, where hitherto it has been usual to interpret everything on an Aryan or Indo-Germanic basis.

For De Cara the Hittites are Pelasgians, and one with the Hyksos who invaded Egypt; this he seems to me to have proved. He considers that their primitive seat was in the high regions of Syria, and that their dominion included Syria, Asia Minor, Armenia, the Black Sea district, and southern Scythia —that is to say, around the Black Sea and Sea of Azov; these regions being independent of the other more westerly countries, Greece and Italy. In his opinion, the Hittite stock peopled the Mediterranean, at least as far as Italy, setting out from its eastern coast, or Western Asia. In speaking of the Hittite

[1] *Gli Hethei-Pelasgi*, Rome, 1894; *Gli Hyksos*, Rome, 1889.

dominion in Asia he is unable to accept all the peoples included under the name Hittite as one race; he regards them as a confederacy. Now, if it is true that the dominion of the Hittites in Asia included all the peoples and regions to which De Cara extends the name Hittite, he is right in considering them as a confederacy in the political sense, because they were often united in fighting against the Egyptians or the Babylonians or the Assyrians. It is easy to imagine also that some peoples were tributary to the true Hittites, and being dominated by them had been thus influenced in their civil and religious life. De Cara is not concerned with the physical type of the Hittites, and with reason, for that problem cannot be solved by linguistics or archæology alone. His important conclusion, however, agreeing with my own investigations, remains: the Hittites, as the primitive inhabitants of Syria and Asia Minor, are a Mediterranean people, like the western Pelasgians, who are of the same stock as the eastern Pelasgians.

English archæologists, however, including Wright,[1] Sayce,[2] and others, regard the Hittites as a Turanian or Mongolian race of yellow complexion. Their arguments, it is true, are by no means conclusive; they find evidence in the absence of beard in the figures carved on rocks or painted by the Egyptians on their monuments, in the mode of wearing the hair by which it has the appearance in profile of a Chinese pig-tail, in the profile of their faces as drawn by the

[1] *The Empire of the Hittites*, 2nd ed., London, 1886.

[2] *The Hittites; id., The Races of the Old Testament*, London, 1891; cf. Conder, "Hittite Ethnology," *Jour. Anthropological Inst.*, vol. xvii., 1887-8; *id.*, "The Early Races of Western Asia," *Jour. Anthr. Inst.*, vol. xix., 1889-90

Egyptians, though in this last case Sayce believes that the Egyptians were caricaturing their enemies.

But if we carefully examine the figures in the Hittite monuments we find some personages with beards, and others without; thus the two figures in Plate XIV. (Fig. 23), which is the reproduction of a bas-relief at Ibreez, by Davis,[1] from Wright's work,

FIG. 23.—Bas-relief at Ibreez (Davis).

have full beards, so also the figure seen in Plate XVIII. or the false Sesostris of Herodotus; in the long series in Plate XXIV. (Fig. 24), reproduced from Perrot and Guillaume,[2] individuals with beards are mingled with others without beards. Any one who

[1] *Transactions of the Bibl. Society*, iv., 1876.

[2] *Explorations archéologiques de la Galatie et de la Bithynie*, Paris, 1862.

imagined that the Egyptians, who are for the most part painted and carved without beards and without hair, belonged to a race unprovided in this respect, would doubtless be in error, and no one has looked upon the Egyptians as Turanian. The hair is worn in two lateral locks, one on the right, the other on the left, not in a single lock as would appear in profile. The facial profile in the Egyptian monuments would seem to indicate prognathism rather than flattening of the face; the profiles on the Hittite monuments, on the other hand, are orthognathous

FIG. 24.—Hittites (Perrot and Guillaume).

and regular, often beautiful; I can see no traces of the Mongolian type.

The Armenoids of Lycia.—An anthropological study by Dr. von Luschan[1] in Lycia and the neighbouring regions would lead us to believe in the existence of a primitive race with hypsibrachycephalic (that is, high and short) skull, an Armenian or Armenoid race, which had peopled this region, and

[1] F. von Luschan and Petersen, *Reisen in Lykien, Mylias, und Kibirate*, Vienna, 1889; *id.*, "Die Tachtadschy und andere Ueberreste der alten Bevölkerung Lyciens," *Archiv f. Anth.*, vol. xix., 1891.

perhaps also the other regions of Asia Minor. Since Von Luschan's conclusions might induce us to regard this race as representing the Hittites, and hence lead archæologists and historians astray, I wish to show that such an identification could not be accepted.

Luschan measured in Lycia 177 individuals of the Mohammedan faith, and found among them both extreme dolichocephaly and extreme brachycephaly; in some regions the dolichocephals outnumbered the brachycephals; in others the latter were more numerous. He also measured 179 individuals belonging to the Greek Church, and found that the two forms were almost equally common among them. He then asked himself: Who are the primitive inhabitants of Lycia? A series of ancient skulls might furnish the answer, but unfortunately in the Lycian tombs with bilingual inscriptions at Limyra only one skull could be found and that was imperfect, though comparable to a Tachtadshy skull, also imperfect, and to an Armenian skull, again imperfect; all three were of the same hypsibrachycephalic type. The author further studied 93 skulls from Adalia, finding 25 brachycephalic and 68 dolichocephalic and mesocephalic. He compared these dolichocephalic skulls with a Bedouin skull from Palmyra and with another of the thirteenth century from Limyra, reaching the conclusion that the primitive Lycian population was hypsibrachycephalic, but that in very ancient times the dolichocephals arrived from two different directions, from Greece and from Arabia. Luschan hence believes that the population is composed of a primitive Armenoid element and of two secondary elements, Greek and Arabian.

I think we can explain Luschan's facts in a manner

more in harmony with other facts. According to this interpretation the skull forms of Adalia (such as Luschan's Fig. 95), the Palmyra Bedouin, and the Limyra skull of the thirteenth century belong to the primitive population, while the ancient Limyra skull of Armenoid type represents a stock which slowly infiltrated Lycia and possibly other parts of Asia Minor. In other words, the dolichocephalic forms described by Von Luschan are the same as those found in other parts of Asia Minor occupied by the Pelasgians, the same that we find in Egypt, to the south of Egypt, and in East Africa generally. These cranial forms belong to the Hittites, who, as we have already seen reason to believe, emigrated into Asia through Egypt. We may compare a skull from the temple of Wady Hamz, which is pentagonoid;[1] Palmyra skulls, some pentagonoid, others ovoid, forms found in Egypt and East Africa;[2] skulls excavated at Hissarlik and examined by Virchow, some ellipsoidal like those of Palmyra and Adalia, others with a more special form of ellipse constantly found in Africa and in the Mediterranean as far as the extreme west, in Spain and Portugal, and in the neolithic interments of Great Britain—*i.e.*, an ellipse compressed at the sides, like the skull of the warrior in Schliemann's *Ilios* (Fig. 25, Figs. 973-976 of the English edition), which I term the Pelasgian ellipsoid. I find that all these forms are common to the countries we have explored, to Egypt, and to Ethiopia.

On these grounds I am convinced that the primitive population of Lycia and the rest of Asia Minor, as

[1] *Jour. Anth. Inst.*, vol. viii, Plate IX., 1878-79.
[2] *Jour. Anth. Inst.*, vol. i., 1871-72.

also of Syria, is of the same type as the Egyptian, and derived from the same centre of diffusion. This primitive population constituted the Hittite nation, which, in this case, could not have been Turanian, as Wright and Sayce believe, nor of brachycephalic Armenoid type, as Luschan argues. As I have already remarked, it is probable that the immigrants encountered a population coming from Northern

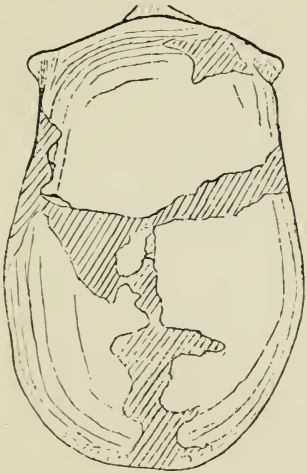

FIG. 25.—Skull from Troy, *Ellipsoides pelasgicus* (Virchow).

Arabia, but as the skull characters of the two races were allied, it is difficult to distinguish them.

Luschan's Armenoid brachycephals, of whom a single skull is found in the Limyra graves, are certainly Armenian, and it need not surprise us to find that even at the period of the Hittite domination there was such an infiltration into Asia Minor and also Syria. If there was an alliance, as it seems, or

a domination of the Hittites over the Armenians, the entrance of Armenian elements into the Hittite region was natural. The Armenian movement towards the west and south has continued, especially where important changes, by dissolving the dominant nation, have enabled the Armenian population to progress without obstacle. In confirmation of this, I may mention that I have found skulls of Luschan's Armenoid type in Egyptian collections, such as that of Möilano in the Museo Civico, though they are only of sporadic occurrence, some four or five in the whole series; in Sicily also I have found them among æneolithic skulls of Mediterranean type.[1] The true and authentic Hittite stock, with its original anthropological characters, must be explored on the sea-coast; certainly Hittite domination, extending towards the interior, has carried with it many racial elements of the stock, but on the whole the allied or tributary population has not been changed. That is why I think De Cara has done well to be cautious in not regarding the Hittite populations as a race, but only as a federation. Moreover, a single skull, discovered in the tombs of bilingual inscription (Greek and archaic Aramaic), and posterior to the dominion of the Hittite stock, can prove nothing in this respect.

Cyprus.—Cyprus, so near to Asia Minor, and so closely connected with it, shows in its population the same craniological characters of African origin and facial types common to the Mediterranean, as we may see from its terra-cotta figurines (Fig. 26) and its monuments.

If, as appears, we may rely on what Dr. Ohne-

[1] "Crani preistorici della Sicilia," *Atti Soc. romana Antropologia*, vol. vi., 1899.

falsch-Richter has written regarding the new data found at Cyprus and the successive periods of civilisation there, we have two very ancient periods which show how foreign Asia was to Cyprus in prehistoric and primitive times. According to Ohnefalsch-Richter, the second period would be towards the first half of the fourth thousand years before Christ, a pre-Phrygian and pre-Hittite period, and co-eval with the first city of Hissarlik. The first period is still

Fig. 26.—Terra-cotta figurine of Cyprus (Tubbs).

more ancient, and would begin in the second half of the fourth thousand years, B.C. 3500; it is absent at Hissarlik and is therefore anterior to the first city, and termed by this author the prehistoric pre-Hissarlik period of Cyprus. This civilisation, anterior, according to Ohnefalsch-Richter, to any Asiatic influence, is autochthonous. Moreover, he believes that the Libyan civilisation at Ballas and Naqada, as discovered by Flinders Petrie, and that called Libyan-

Amoritic at Tell-el-Hesy in Palestine, are an importation from Cyprus.[1] Now this would prove direct communication between prehistoric or Libyan Egypt, as we may call it, Cyprus, and the coast of Asia Minor, which thus would not have given to Cyprus but have received from it. With regard to direct relations, and the importations from Cyprus and prehistoric Egypt, the same author believes that it is necessary to discover new data before we can reach more exact conclusions concerning the mystery, as he calls it, of the Libyan population.

We have no reasons for denying early relations between prehistoric Egypt and Cyprus, and between this island and Asia Minor. Such relations would be the natural result of the diffusion of the African stock towards the east in prehistoric times, long anterior to the beginnings of the use of the metals; copper, as has often been stated, probably came to Egypt from Cyprus.

The Phœnicians.—With regard to the Phœnicians we are in some obscurity. Those who, with Petrie and Sayce, rely on the testimony of the homophonies from the Old Testament, or from anthropological types revealed by Egyptian monuments, consider them to be Hamites, originating in South Arabia, where also they would seek the origin of the Egyptians. Punites, Pœni, Phœnices, would be the same name and refer to the same race.[2] It is true that the Egyptians have represented them of a brick-red colour, like themselves, and like the Punites; and it is true that the

[1] "Neues über die auf Cypern Ausgrabungen," *Zt. für Ethnologie, Verhandlungen*, 1899.

[2] Petrie, *A History of Egypt*, vol. i., p. 14; Sayce, *The Races of the Old Testament*, 1891, chapter vi.

portraits of the Phœnicians of Damascus do not differ from those of the Punites, nor of the other inhabitants of Syria (Figs. 27, 28). But can we absolutely trust them?

On the other hand, there are some who consider that the Phœnicians were Semites. This view is found especially among historians, who chiefly rely on the language. Although Semitic, it appears to present some peculiarities; this is not, however, a question which we can enter into.

So far as I can judge by the few skulls which I have seen at the Academy of Science at Turin, and

FIG. 27.—Syrian (Petrie).

FIG. 28.—Punite (Petrie).

which were studied by Lombroso, or by others examined by Mantegazza and Zannetti, by Collignon, and by Bertholon,[1] I should conclude that the Phœnicians do not differ from the Egyptians.

The Turin skulls were presented by General

[1] Lombroso, *L'Antisemitismo*, Turin, 1894, Appendix III.; Mantegazza e Zannetti, "Note Antropologiche sulla Sardegna," *Arch. per l'Antrop.*, vol. vi.; Collignon, "Crânes de la Necropole Phénicienne de Mahidia," *L'Anthropologie*, iii., 1891; Bertholon, "Note sur deux crânes Phéniciens trouvés en Tunisie," *ib.*, 1890, vol. ii.; "Documents anthropologiques sur les Phénicies," *Bull. Soc. Anthrop. de Lyon*, xi., 1892.

Cesnola, having been excavated by him at Cyprus in Phœnician tombs, together with idols, phalli, and Phœnician inscriptions of the epoch of Sennacherib, or towards the seventh century B.C. They are six in number, one being brachycephalic, one mesocephalic, and four dolichocephalic. As classified by Lombroso in accordance with my method, they show the following forms: *Rhomboides*, brachycephalic, as all rhomboid skulls are, *Sphenoides stenometopus* (*Beloides*), *Pentagonoides acutus*, *Ellipsoides isocampylos*, *Trapezoides;* the sixth is pathological, and therefore not classified. All these cranial forms are such as I have found in Egypt, in Hamitic Africa, and in the Mediterranean.[1]

Although the skulls examined by the above-named authors were not classified according to my method, but in accordance with other and less conclusive methods, those of mere craniometry, the figures given by the authors show that the skulls do not differ from the types prevalent in the Mediterranean, and characteristic of the stock there dominant.

On these grounds I believe that the Phœnicians belonged to the same stock in which are included the Egyptians and other Libyan peoples, and the Hamites of Africa and Europe generally, but that at a relatively late period they underwent Semitic influence, especially in language, their anthropological origin being thus concealed. Such a phenomenon is not new, the modern Egyptians themselves furnishing an evident example of it.

[1] Cf. *Africa*, p. 385.

CHAPTER IX.

THE EUROPEAN PEOPLES OF THE MEDITERRANEAN.

The Invasion of Europe—The Iberians—The Ligurians—The Pelasgians—The Italic Problem—The Etruscans.

The Invasion of Europe.—We have found that there are four racial names indicating the four great branches of the Mediterranean stock. Of the branch occupying North Africa—the Libyans and that people who represented them so gloriously under the name of Egyptians—I have already spoken. It remains to speak of the branches which occupied Europe, and especially the great peninsulas which still preserve in large part their primitive names and inhabitants. I refer to the Ligurians, the Pelasgians, and the Iberians, concerning whom much has been written and many theories set forth by anthropologists and historians. Here the difficulties seem to be great, not as regards the demonstration of the affinity between the three branches, which contain the same physical ethnic elements, but on account of the numerous errors which prevail regarding their anthropology, and of the persistence with which they are preserved. Thus it was that when some years ago I wrote regarding the African origin of these European racial branches only a few here and there, like Arthur Evans, received my opinions with favour; most

anthropologists found them fantastic and insubstantial.

Things have changed since then. The archæological discoveries in prehistoric Egypt and Cyprus, together with those in Greece itself, have demonstrated the part played by Africa in the civilisation of Mediterranean Europe, and my opinion has gained more credit. Archæologists also have themselves independently approached it, and considered it probable. Ethnologists, like Keane[1] and Brinton,[2] accept the African origin of the first European stocks in the Mediterranean, and also in the centre of the continent.

Bathed by the waters of the Mediterranean, Europe is separated from the two great continents with which it forms the basin, on the east by the Hellespont, and on the west by the Straits of Gibraltar; but these waters are no obstacles to the progress of migration, nor are the more ample waters of the whole Mediterranean, since the innumerable islands scattered over it serve as bridges or stations, and the peninsulas stretch out their arms towards Africa as though to welcome it. The emigrants had the sea before them, and the evidence shows that at various points they passed over it. It seems that from Egypt, before yet Egypt was known in history, African colonists passed over to Greece by the islands, perhaps first of all Crete; from the region of Numidia they probably crossed over into Sicily, Sardinia, Southern, Central, and Northern Italy, Southern France; by Gibraltar they invaded the Iberian peninsula. Almost the same roads of invasion were followed by the Arabs in the eighth century.

[1] A. H. Keane, *Man Past and Present*, 1899.

[2] D. Brinton, *Races and Peoples*, New York, 1890.

These three possible routes for the invasion of Europe by the Mediterranean were followed by the three branches of our stock called the Iberians, the Ligurians, and the Pelasgians. No doubt distinctions had arisen in the three divisions, variations in costume, language, and the accessory physical elements, according to the grouping of the racial types constituting the various branches and sub-divisions; but the fundamental common characters were preserved, and are still preserved, throughout the whole Mediterranean. Many variations in customs must be derived from the region occupied by the migrants with the special conditions of its soil and social state. But notwithstanding these influences, the primitive characters of the stock, as it is easy to show, have still been preserved.

In course of time the three branches have been displaced in some parts, and been re-mixed; they have grown hostile to each other and fought. The sub-divisions have adopted various names, either from their leaders, the regions they have occupied, or some other circumstance, and have hence become strangers or enemies to each other. And since the races that are most closely allied in their elements make the fiercest foes, as we see among animal species, the original stock has been divided up into parts that are everywhere hostile to one another.

It would be possible to follow these various changes, but here we need only occupy ourselves with the primitive invasions and immigrations, when the racial names were not so well determined as they were in later and historical times.

The Iberians.—Concerning the primitive inhabitants of the Iberian peninsula, their physical char-

acters and cranial forms, we possess undeniable evidence; the Kjökkenmödings of Mugem, the grottoes of Casa da Moura (Fig. 29), and the discoveries concerning the early metal age in the south-east of Spain,[1] have demonstrated the existence of cranial types which are undoubtedly of African origin. In them we may discover types which we have already seen in Hissarlik, in North Africa, in Ethiopia, in Egypt, in Italy, and in Greece. They show a special form which I do not hesitate to call Pelasgic, since it

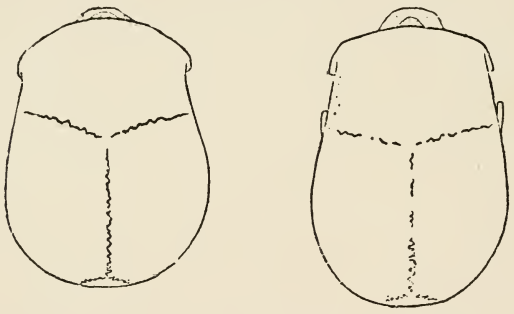

FIG. 29.—Skull from Casa da Moura (Cartailhac).
1. *Ovoides;* 2. *Ellips. pelasgicus.*

is so often seen among populations which are without doubt Pelasgic; their ovoid and ellipsoid forms are those belonging to the east and north of Africa, from Somaliland and Egypt, to the Canaries.

This general statement may seem erroneous, since amid the prehistoric skulls of African form we find brachycephalic skulls of other forms. F. de Paula

[1] Cf. Cartailhac, *Ages préhistoriques de l'Espagne et du Portugal*, Paris, 1886; Siret, *Les premiers âges du métal au nord-est de l'Espagne*, Antwerp, 1887; Sergi, "Sugli abitanti primitivi del Mediterraneo," Florence, *Arch. per l'Antrop.*, 1892; Brussels, 1892; Rome, 1892; "Crani siculi neolitici," *Bo'l. Pa'etn. Ita'.*, 1891, Parma.

and Oliviera, who have examined the skulls from Mugem, Casa da Moura, and elsewhere, state that they have found forms like those of Furfooz and others, belonging to my cuneiform and sphenoid types, which are foreign to the Mediterranean. It is true that the prevailing type is Mediterranean, usually called dolichocephalic, and that in the great Mugem series two skulls only are brachycephalic and sphenoidal; still they exist.[1] Also in the series of skulls discovered by Siret, brachycephalic forms are found among the predominant dolichocephalic and mesocephalic skulls of African form.[2]

It is necessary to point out that we are here dealing with a period towards the end of the neolithic age and the beginning of the age of metals, a period at which, as I will show later, begins the first slow Asiatic immigration by the eastern Mediterranean and by the land to the east, through Russia and Central Europe. Thus brachycephalic Asiatic types are found not only in the Iberian peninsula, but in many Mediterranean regions[3] and in the centre of Europe.[4]

At the same time the studies of Broca on the Basques, as well as of Thurnam, have shown the persistence of the Iberian branch, not only in physical characters, but also in language and customs. Observations on the modern populations of Spain and Portugal have also shown that, notwithstanding

[1] Cartailhac, "Espagne et Portugal," *Anthropologie*, iv.

[2] Siret, *op. cit.*

[3] Sergi, "Crani preistorici della Sicilia," *Atti Soc. rom. di Antrop.*, vol. vi., 1899.

[4] Broca, *Mémoires sur les Basques*, 1872; Thurnam, "Further Researches on the two principal forms of Ancient British Skulls," *Memoirs Soc. Anthropology*, vol. iii.

invasions from the end of the neolithic period and after the beginning of the age of metals, the primitive type of African origin has remained predominant. Dr. Ferraz de Macedo, among 1000 modern Portuguese skulls, found only 70 brachycephalic, with 512 dolichocephalic, and 418 mesocephalic.[1] Professor Oloriz of Madrid among over 8000 heads found only 26.47 per cent. brachycephalic, the dolichocephalic and mesocephalic being 73.53 per cent., thus giving an average mesocephalic index to Spain, as to the Spanish Basques.[2]

The Ligurians. — This important branch of the Mediterranean stock, ever since Nicolucci's first anthropological researches,[3] has not only been ill understood, but assigned a false origin and incorrect physical characters, since it has been supposed to be brachycephalic and of Mongolian or Turanian stock. Even to-day, notwithstanding the studies of Lombroso, Issel, Livi, and myself, dating back for many years, and notwithstanding the prehistoric evidence found in Ligurian districts, and the persistence of the primitive Ligurian element in the present population, the error is still maintained by foreign anthropologists, especially by the French, who persist in regarding the Ligurians as brown-skinned Turanians. From

[1] Cf. Estacio da Vega, *Paleœthnologia. Antiguitades Monumentaes do Algarve*, Lisbon, 1886-87, vol. ii., p. 493.

[2] *Distribucion geografica del indice cefalico en España*, Madrid, 1894. I cannot accept the theories of Collignon concerning the Basques, and therefore do not here take them into account. See "Les Basques," *Mémoires de la Société d'Anthropologie de Paris*, 1895. See also Keane, *Man Past and Present*, pp. 460 *et seq.*, as to the linguistic analogies between the Basques and the Berbers.

[3] Nicolucci, *La Stirpe Ligure in Italia nei tempi antichi e nei moderni*, Naples, 1864.

Mentone to Ventimiglia (Fig. 30) the neolithic sepulchral grottoes have revealed skeletons belonging to the true original stock, which show clearly the various cranial forms characterising the great Mediterranean race throughout the basin.[1]

The Ligurian stock was very widely diffused; it occupied the south of France, being linked with the

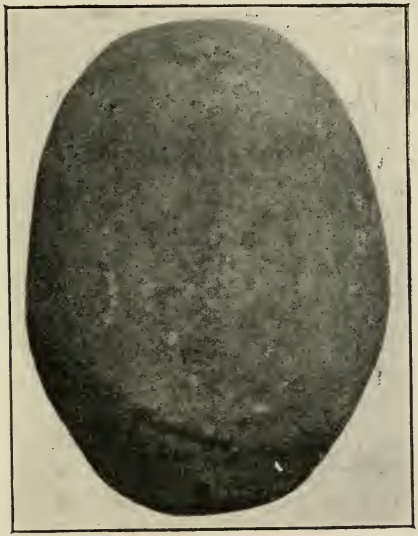

FIG. 30.—Ancient Ligurian Skull from the grotto of Finalmarina, *Ellipsoides* (Sergi).

Iberians of Spain and mingling with them at the point of junction; it occupied nearly the whole of Northern Italy, and without doubt much of the centre

[1] Verneau, "Nouvelle découverte de squelettes préhistoriques aux Baoussé-Roussé," *L'Anthrop.*, vol. iii.; E. Rivière, *De l'antiquité de l'homme, etc., sur les Alpes Maritimes*, Paris, 1879; Sergi, "Liguri e Celti nella valle del Po," Florence, 1883, *Arch. per Antrop.*; Livi,

of Latium, under the name of Siculi, as well as all the islands. To-day an Italian province, Liguria, preserves the name and the stock itself, in part mixed with Piedmontese Celts, yet easily distinguishable. The cranial form remains invariably persistent from the time of its appearance, as I have often been able to demonstrate. The Ligurians of the south of France mingled with the Celts, who arrived later, and it is the Celto-Ligurians who are known to history. The Provençal population still reveals the presence of the two different stocks.

From researches over the whole of the Italian peninsula and islands, it appears that the inhabitants of Central Italy on the hither side of the Apennines, ancient Etruria, ancient Umbria, now restricted to the western region of the Apennines, Piceno, Sabina, Latium, down to the extreme south, with the three islands of Sicily, Sardinia and Corsica, have possessed in common, and still possess in great part, a series of cranial forms, among which are found others, less numerous and apparently foreign to the common type. These forms or types are thus common therefore with those of Egypt, North Africa, and the Iberian peninsula. I have been able to demonstrate this fact in a series of studies on Latium and other parts of the Italian peninsula and islands. The primitive Italian stocks would thus possess community of origin with those of the other Mediterranean regions, and hence with those of East Africa,

"L'indice cefalico degli Italiani," *Arch. per l'Antropologia*, Florence, xvi., 1886; Issel, *Liguria geologica e preistorica*, 1892, vol. ii., pp. 331 *et seq.*; Hervé, *Revue Mensuelle de l'école d'Anthropologie*, vol. iv., 1896, and elsewhere; Oloriz, *Distribucion geografica del indice cefalico en España*, pp. 266-67.

the centre of diffusion of the great race which has peopled the basin.[1]

The Pelasgians.—To the great Mediterranean family, already including the Iberians, Ligurians, and Libyans, must now be added another similarly primitive population, an individualised branch of African origin like the others, which has been discussed with varied fortune by historians and archæologists: I refer to the Pelasgians.

Great obscurity has enwrapped the Pelasgians, who have been pointed out to us as a mysterious people of unknown origin. Now they are being discussed, but only in the light of inscriptions and linguistic remains. It is time that anthropology entered into the discussion, for thus only, it seems to me, may we find the solution of the problem.

The solution of the Pelasgian problem will also be the solution of the Etruscan problem, for the relation of the Etruscans to the Pelasgians is no longer doubtful; the Lemnos inscription removes all doubt on this matter.[2] The Etruscans are western Pelasgians,

[1] Cf. Sergi, "La Stirpe Ligure nel Bolognese," *Atti di Storia patria*, etc., Bologna, 1883; "Liguri e Celti," *cit.*; "Antropologia storica del Bolognese," *Atti*, *cit.*, 1884; "Di alcune Varietà umane della Sardegna," *Boll. Acc. Medica di Roma*, 1892; "Di alcune Varietà umane della Sicilia," *Accad. Lincei*, 1892; "Crani Siculi neolitici," *Boll. Palet. ital.*, 1892; "Degli abitanti primitivi del Mediterraneo," *Arch. per l'Antrop.*, Florence, 1892; Transactions of the Moscow Congress, 1893; A communication to the Anthropological Society of Brussels, Tome xi., 1893; "Studi di Antropologia laziale," *Acc. Med. di Roma*, 1895; "Crani preistorici della Sicilia," *Atti Soc. rom. di Antrop.*, 1899, vol. vi.; *Arii e Italici*, 1898. Cf. also Pullé, "Profilo antrop. dell' Italia," *Arch. per l'Antrop.*, 1898; Pieroni, "Della stirpe Ligure nella Garfagnana," *Bull. Soc. Veneto*, 1892; Verneau, *Nouvelle Découverte de Squelettes préhistoriques aux Baoussé-Roussé près de Menton*, *cit.*

[2] Cf. Pauli, *Eine Vorgriechische Inschrift von Lemnos*, Leipzig, 1886; Hesselmeyer, *Die Pelasgerfrage*, Tübingen, 1890.

while the Pelasgic family chiefly extends between Greece and Asia Minor.

While the primitive inhabitants of the Mediterranean basin, represented by Iberians, Ligurians, and Libyans, are revealed as already occupying the Iberian peninsula, Southern France, Italy, Sicily, Sardinia, and Corsica, on the European side, and while they occupied the African side from the Red Sea to Gibraltar, and also the Atlantic coast, a large zone, from Italy to Asia Minor, is still missing, before we can complete the Mediterranean basin. What name had, or could have, the primitive people who occupied this great zone extending from Europe to Asia? Here we can no longer speak of Iberians, Ligurians, or Libyans, and yet before this region was Hellenised a population must have existed here. This we must regard as the Pelasgian, a race related to the other Mediterranean branches, a great branch of the immense family, with many physical characters in common, as we shall see; African also, like the Libyans, Iberians, and Ligurians.

This general induction concerning the origin of the Pelasgians becomes clearer in the particular case of the Etruscans, concerning whom we possess more numerous and better confirmed documents, among others the undeciphered language which some are still making efforts to interpret, perhaps in vain, since it resists every comparison with other ancient dead languages. We know with certainty that it is neither a Semitic nor Indo-European language, equally foreign to either family; whence Ottfried Müller declared the Etruscans a primitive people (*Urvolk*), whom it is impossible to classify linguistically and ethnologically. Hesselmeyer reaches a similar conclusion concerning

the Pelasgo-Tyrrhenians, a dying primitive people, subdued by later occupants of the soil.

To demonstrate my thesis that the Pelasgians, and with them the Etruscans, were of African origin, a branch of the great Mediterranean family, I will first deal with the traditions recorded by Herodotus, confirmed as they are by my own researches and inductions. The anthropological arguments I will turn to later.

Herodotus mentions the Pelasgians in speaking of Greek origins, and writes: "The Athenians are of Pelasgic, the Lacedæmenians of Hellenic, origin."[1] "When the Pelasgians occupied all the region now called Greece, the Athenians were Pelasgians and were called Kranai; when Cecrops ruled they were called Cecropidi; under Erethes they were transformed into Athenians, and finally Ionians, from Ionus, the son of Xutus."[2] Since these statements do not, however, express all that Herodotus meant, it is well to add his further explanatory observations: "I cannot with certainty say what was the language of the Pelasgians, but if we may judge by that still spoken by the existing Pelasgians, such as the Crestoni, above the Tyrrhenians, neighbours of the Dorians, and once inhabiting Thessaly, or the inhabitants of Placea and Scilax on the Hellespont, once of the same country as the Athenians; and if we recall the names, now transformed, of so many other Pelasgian cities, we may say that the Pelasgians spoke a barbaric language. And if this was common to the whole Pelasgian stock, the Athenian stock, being Pelasgian, changed its language at the same time as the change occurred in Greece."[3] And, as if this were

[1] Book I., 56. [2] Book IV., 44. [3] Book I., 57.

not sufficient, he adds: "The Hellenic stock, already separated from the Pelasgian, was weak, and from being weak in numbers it grew by mingling with other barbaric stocks; but the Pelasgians, it seems to me, never increased."[1] The substance of all this is that the first inhabitants of Attica, as of the rest of Greece, were Pelasgians, and that a new stock, the Greeks, changed the language of the country and was incorporated with the Pelasgians, a few Pelasgian cities, with the same language and the same primitive customs, still remaining here and there in Greece.[2] It is noteworthy that Herodotus refers to the transformed, that is, Hellenised, names of Pelasgian cities, as indicating the extension of the Pelasgian stock.[3] That Herodotus really means that the Pelasgians were barbarians, unlike the Greeks, appears from another passage where he says that "the Pelasgians, already Hellenised, united themselves with the Athenians when the latter began to call themselves Hellenes."[4] Again,[5] his narration of how the Pelasgians were driven out of Athens, and his reference to the construction of the so-called Pelasgian wall, are facts which only critics prejudiced by preconceived ideas can call in question. They show also that the Pelasgians had been subjugated by the new racial element, the Hellenic, and then assimilated, whence the relative disappearance of their name. We see also how they were compelled to expatriate themselves from one region to another as the Hellenic invasion

[1] Book I., 58.

[2] Cf. Pauli, *op. cit.*, whose inductions, with those of G. Meyer, confirm Herodotus's narrative.

[3] Cf. Sergi, "Varietà umane della Russia e del Mediterraneo," *Att. Soc. rom. antropologia*, 1894.

[4] Book II., 51.

[5] Book VI., 137.

progressed, and how they made attempts, vainly no doubt, to re-capture their lost territories.

But these barbarous Pelasgians were not so barbarous or so incapable as may appear at the first glance; Homer calls them "divine" ("dioi te Pelasgoi") in the *Iliad* and *Odyssey*, and finds them at the walls of Troy, together with the Carians, the

FIG. 31.—Greek Skull from Megara, *Pentagonoides obtusus* (Sergi).

Peoni, the Lelegi, led by Ippotous from Asiatic Larissa; and in Crete, together with other peoples. Moreover, many elements of Greek religious worship come from them, directly or indirectly; thus, the Dodonian Jupiter was Pelasgic.[1] Herodotus narrates a legend concerning this deity, and interprets it in

[1] *Iliad*, xvi. 233.

his own manner.[1] From this it appears that the origin of the Dodonian Jupiter is to be found in Libya, whence he was brought by the Pelasgians into Greece, when Greece was still Pelasgia. The Greeks, the Hellenes, accepted the worship of this Jupiter, as they accepted the worship of other exotic deities,

FIG. 32.—Italian Skull from Novilara, *Ellipsoides pelasgicus rotundus* (Sergi).

retaining the original name recorded by Homer and Herodotus.

Here Herodotus begins to narrate the more important relations between Pelasgia (now called Greece), Egypt, and Libya, and thus we have a first revelation of Pelasgic origins. Herodotus finds that

[1] II., 54-56.

the worship of Hercules in Egypt is very ancient, and cannot be of Greek origin, but that, on the contrary, the Greek Hercules must be of Egyptian origin. To prove this, Herodotus refers to the worship of Neptune, and of the Dioscuri, unknown to the Egyptians. He goes further and points out that at Phœnician Tyre there is a temple dedicated to Hercules, whose worship is here associated with the origin of Tyre, which took place 2,300 years earlier. He also visited the temple of Thasus, where he found the Thasian Hercules. Hence the worship of Hercules is not of Hellenic origin, but anterior to the Hellenes.[1] So also with the worship of Bacchus, and of the phallus, which Herodotus found in Egypt, and believes to have been thence exported to Greece; nor by chance is the name of Cadmus Tyrian.[2]

The list of the relations between Egypt and Greece is not, however, closed here. Herodotus considers that the names of nearly all the gods of Greece are derived from Egypt, the Pelasgians being the intermediaries who brought them into Greece;[3] and he attributes absolutely to the same Pelasgians the worship of Mercury and the Cabiric mysteries which he supposes to have been brought by them into Samothrace.[4] Neptune, not adored in Egypt, came to the Greeks from Libya, and it would be useless to seek his origin outside Libya, where he is held in honour by all.[5] Nor does he hesitate to affirm that the garments and the ægis of the statues of the Grecian Minerva were derived from the costume of Libyan women, as also the ornaments of the palladium; and Herodotus further believes that the

[1] II., 43, 44.
[2] II., 48, 49.
[3] II., 50-52.
[4] II., 51.
[5] II., 50.

cries during the sacrifices were derived from the loud shrieks of the Libyan women in their rites.[1]

The element of truth in all these alleged relations between Hellenic, Egyptian, Phœnician, and Libyan cults is that we need not seek the origins of Greek religion in India, in the primitive beliefs of the so-called Indo-Europeans, but in the Mediterranean itself, partly in the valley of the Euphrates and the Tigris, by Asiatic and Egyptian intermediaries. Then followed new elements which, for the sake of being better understood, I am willing to call Indo-European, but these new elements were superposed on the first, with which they amalgamated, transforming them but little. Hence the Hellenes, with a vanity similar to that of all other populations, regarded themselves as the first people, the autochthons, men *par excellence.* The eastern part of the Mediterranean basin was beneath the direct influence of Mesopotamian civilisation, that being the most ancient, and the first to infiltrate through Asia Minor; a new influence, the so-called Indo-European, followed.

The Italic Problem.—Thus it happened that the great Mediterranean family—which I divide into the comprehensive groups of Iberians, Ligurians, Libyans proper, and Pelasgians, and regard as of African origin—underwent various fates in the history of Mediterranean civilisation. When the new Indo-European element appeared, the primitive European peoples of the Mediterranean were subjected to a process of transformation; Egypt, which possessed a very ancient and solid civilisation, maintained itself for a long time; the Libyans of North Africa remained as they were; the Pelasgians were decomposed under

[1] IV., 189.

Hellenic influence; the Ligurians and Iberians were changed by the Roman power. It would be an error, however, to believe that a numerous Aryan population emigrated from Asia or North Europe and occupied the Mediterranean basin, destroying the previous populations. The Hellenic stock which changed Pelasgia into Greece, importing a new language and

FIG. 33 —Italian Skull from Novilara, *Ellipsoides pelasgicus* (Sergi).

a new civilisation, was a small nucleus which increased by aggregation with the primitive inhabitants, the Pelasgians, as Herodotus expressly states: "the Greek stock, separated from the Pelasgic, was weak and small in number at first; it increased by means of many other barbarous and numerous stocks."[1] Thus it is that any one to-day who studies the racial

[1] I., 58.

elements of Greece and Latin Italy necessarily finds that the primitive elements of the Mediterranean prevail in greatest amount, varying in different regions; the Indo-European or Aryan elements are very rare.

The general result is that the Pelasgians had their

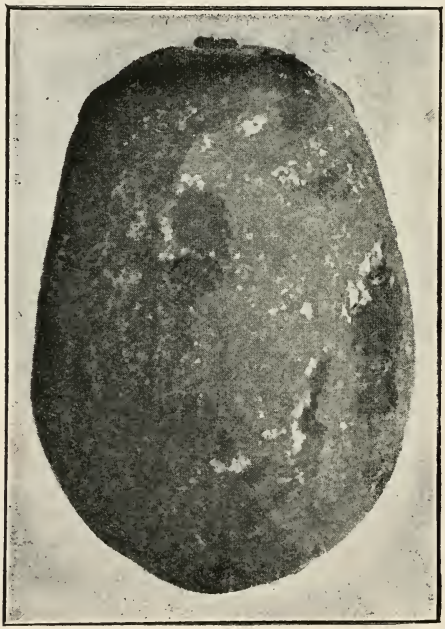

FIG. 34.—Skull from Alfedena, *Ooides longissimus* (Sergi).

chief seat—after the emigration from Africa, and probably from Egypt, before the great Egyptian civilisation was established—in the eastern Mediterranean, and chiefly in the Greek peninsula, the whole of the Greek archipelago, and in Western Asia. Doubtless colonies emigrated from the eastern towards the

western part, under different racial names, especially into Italy and its islands, and perhaps also towards Iberia, where there are undoubted Pelasgic remains, pre-Mycenæan and Mycenæan.

We have evident proof that the Pelasgians were a branch of the Mediterranean family in the study and comparison of ancient and modern skulls in Greece

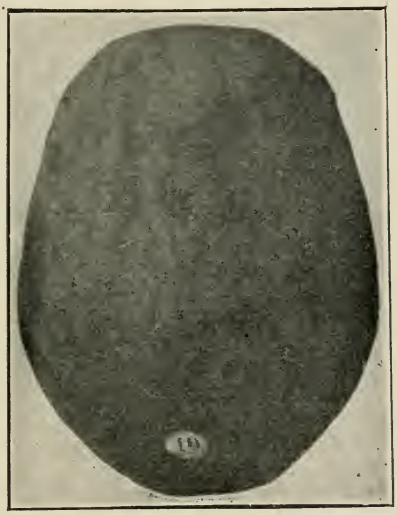

FIG. 35.—Skull from Alfedena, *Ooides planus* (Sergi).

and its islands, and also in Italy. The Asiatic invasions, from whatever direction they came, produced mingling of race, but no alteration of type in the ancient inhabitants[1] (Figs. 32-38).

[1] Sergi, "Etruschi e Pelasgi," *Nuova Antologia*, 1893; *id.*, "Crani di Creta dell' epoca micenea," *Atti Soc. rom. di Antrop.*, vol. ii., 1895; "Studi di antropologia laziale," *Boll. Accad. medica di Roma*, vol. xxi., 1895. Cf. Virchow, "Ueber griechische Schädel aus alter und neuer Zeit und über einen Schädel von Menidi der für den des Sophokles

The Italici.—In a little book published a few years ago[1] I have sought to show, with the help of many arguments and anthropological data, that the Italici are not of Aryan stock, and that it is due only to the comparisons produced by linguistic classifications that this error has been perpetuated among archæologists and historians. This Italic problem is really a European problem, because it concerns not only Italy, but Greece, and those nations of the centre and north of Europe which, after the Aryan or Eurasiatic invasion, became barbarous again and remained semi-barbarous until Latin civilisation intervened.

We have found that Italy was inhabited up to the Neolithic epoch by a homogeneous population of Mediterranean stock, who were afterwards called the Ligurians and the Pelasgians; that towards the end of the Neolithic period, in a period called by Italian archæologists Æneolithic, because we already begin to find the use of pure copper, there is the first indication of the intrusion of a new race with physical characters (brachycephaly) unlike those of the Mediterranean peoples; and that finally there was a large invasion of this new race from the north, leading to the occupation of a considerable part of the Po valley, and constituting a vast Umbrian domain, after passing the Apennines, from the Adriatic to the Tyrrhine Sea, as far as Latium, and from there to the Tiber towards its mouth and lower part.

We have also seen that these invaders carried with them a new language and new customs, among others

gehalten ist," *Akad. der Wissensch.*, Berlin, 1893; and Nicolucci, "Antropologia della Grecia," *R. Acad. di Napoli*, 1867; not for their opinions, however, but for the plates.

[1] *Arii e Italici*, Turin, 1898.

that of burning the dead. The dominion which they maintained for several centuries led to a change in the custom of burying, previously found among all the Mediterranean peoples, and to a change in the language of the invaders, which, as spoken by Mediterranean mouths having already a language of their own, underwent many phonetic alterations, and adopted into its vocabulary many words of the native language.

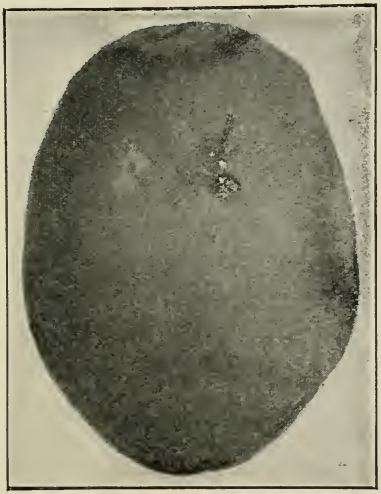

FIG. 36.—Skull from Alfedena, *Ellipsoides embolicus* (Sergi).

Similar phenomena occurred in the Greek peninsula when the Pelasgians, the first inhabitants, underwent the same fate as the Italici.

The evidence furnished by burial-places—that is to say, the skeletons in the ancient tombs of the early Mediterranean inhabitants of Italy and those of the Aryan invaders, have shown clearly the mingling of two stocks; while in spots where the Aryans have not

penetrated there are only traces of a single stock, without blending with foreign races.

These facts have convinced me that the name Italici belongs properly to the early inhabitants of Italy, as also the name Italy belongs to the southern region, which the Aryans in their first invasions never reached, and that the Aryans were strangers to the

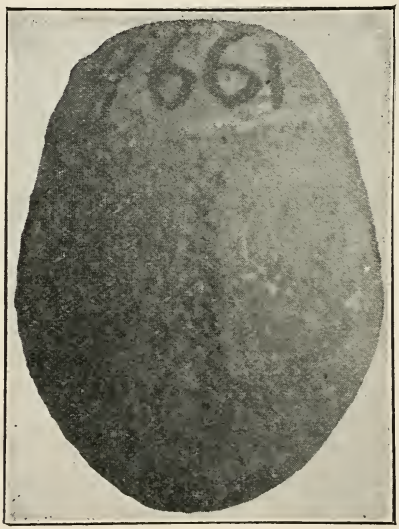

FIG. 37.—Skull from Alfedena, *Pentagonoides acutus* (Sergi).

Italici, indeed only temporary invaders, though their dominion succeeded in transforming the native language and some of the customs. We may find some testimony in the language, and in remains of the stock mixed with the early inhabitants, remains which still persist in Central Italy and in Tuscany, with the same physical characters as the prehistoric invaders possessed, while in the valley of the Po the invaders

definitely changed the anthropological physiognomy, without succeeding in annulling the old and primitive population.[1]

Hence I believe that archæologists are in error when they continue to regard the Italici as above all Aryans;[2] as also are the linguists in persisting to affirm the existence of a primitive racial Greco-Italic group, with pre-formed and reconstituted languages, which, after being first united, was divided into two portions, one invading Italy, the other Greece, bearing a higher civilisation, and languages already existing in the form of Greek and Latin. Some linguists are convinced of this error; among others, De Cara in Italy, who accepts the view that I have long advocated, and Keane in England, although the latter supplies a variant to my interpretation.[3]

Thus I affirm that the Italici, of Mediterranean origin, were forced through violent invasion to adopt the Aryan language, as also, for some time as far as Central Italy, they were subjugated by Aryan dominion, until the development of new elements of Mediterranean civilisation changed the course of events. Then the customs which Aryan dominion had caused to disappear began to flourish again; thus cremation ceased, or only remained as a survival among the few.

The language assumed its own proper physiognomy when Rome united beneath its power the various Italic regions; before that dominion it had been a

[1] This appears from a study by Giuffrida, "La Stature in Rapporto alle forme craniche," *Atti Soc. rom. Antrop.*, vol. v., 1898; also Moschen, *loc. cit.*

[2] Pullé, "Profilo antropologico dell' Italia," Florence, 1898, pp. 21, 133.

[3] *Man Past and Present*, pp. 512-513.

series of heterogeneous forms due to the varying influence of surviving primitive dialects and the varying effects of Aryan influence.

The Etruscans.—The Etruscan problem has as many different aspects as a polyhedron; there is the question of origin, of civilisation, of physical characters, of chronology, of language, of influence exercised

FIG. 38.—Skull from Alfedena, *Pentagonoides acutus* (Sergi).

within and outside Italy. I do not profess to solve this problem in these few pages, in which the Etruscans only enter as an incident, and not as the chief object of my work.

In the Italian edition of this book I denominated the Etruscans the "Later Pelasgians," as a separate Pelasgic branch in Asia Minor, sailing towards Italy at a relatively late period as compared with the pre-

historic Pelasgic emigrations which populated Greece, and in part Italy also. I had substantially accepted the tradition of Herodotus against the opinion of the Germans that the Raseni were the Alpine Rhætians who had descended into Central Italy. This latter opinion is now altogether thrown aside; it is as absurd as if we were to argue that the sun rises in the west. After Brizio, who maintained with very powerful arguments that the Etruscans came from the eastern Mediterranean,[1] another distinguished investigator, Montelius, has thrown the weight of his authority on to the same side.[2] I am not, however, convinced of the probability of Montelius's chronology, which would put back the arrival of the Etruscans to the eleventh century B.C. I still stand by my old opinion that that event cannot be put earlier than the second half of the eighth century, as also Arthur Evans believes, and the observations of Myres seem to me just.[3] This problem of chronology, however, requires further discussion.

With the anthropological characters of the Etruscans I have dealt at length elsewhere, and have shown that the mingling of two racial types in Etruscan tombs is due to mixture with the earlier Umbrian population, so that subsequently the graves in which burial was practised naturally present both the Mediterranean type and the foreign type which came later with the Aryan invasion. I have also shown that the "obesus Etruscus" of Catullus belongs to the foreign, not to the Etruscan element, and that, strange to say,

[1] *La Provenienza degli Etruschi*, Bologna, 1885.

[2] "The Tyrrhenians in Greece and Italy," *Jour. Anth Inst.*, vol. xxvi., 1897; cf. my *Arii e Italici*, cap. iv.

[3] Montelius, "Pre-classical Chronology in Greece and Italy," *Jour. Anth. Inst.*, *loc. cit.*

it still persists in Etruria, as I have myself observed, while the true Etruscan type is clearly visible in the paintings in the more ancient tombs, and in some of the terra-cotta sarcophagi. The great tombs in the Chiusi district are without doubt genuinely Etruscan, and in these we find depicted various scenes from life and many human figures. I have found no

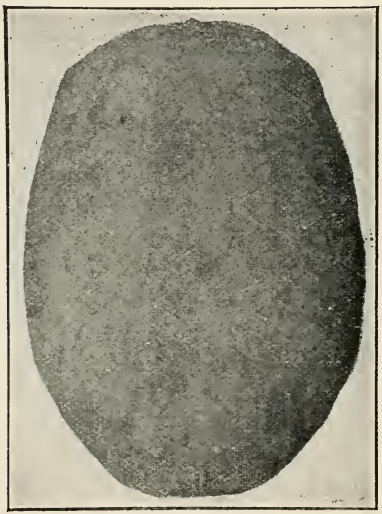

FIG. 39.—Etruscan Skull from Cere, *Ellipsoides embolicus* (Sergi).

obese type there, but only the slender and delicate forms, with elongated face, of the Mediterranean type. The obese type, therefore, with large head and broad face, is foreign, and not Etruscan.[1]

The physical characters of the Etruscans were thus

[1] Cf. for details *Arii e Italici*, cap. v.; "In Etruria," *Vita Italiana*, Rome, 1897; for the "Obesus Etruscus," *Rivista Moderna di Cultura*, Florence, 1898.

of the Mediterranean type; they were true and genuine Italici; and, as others have also maintained, they belonged to the Pelasgic branch (Figs. 39, 40).

Among other arguments in support of this position may be mentioned the inscription at Lemnos, long since well known, with its characters closely approaching the Etruscan, and like those undeciphered. In regard to this I have only to say, as I have written elsewhere, that Etruscan must represent the Pelasgic language, a linguistic branch of the Mediterranean tongue, now lost, and related, as Brinton supposes, to the Libyan languages.[1]

To persist in maintaining, like Corssen, and more recently Deecke and Lattes, that Aryo-Italic affinities are to be found here is to fall under a delusion probably due to the fact that in Italy Etruscan must have undergone this influence, in the midst of a population under Aryan influence, yet very superficially, and perhaps only in some inflexions pronounced in the Etruscan manner, and hence altered.[2] The Etruscan language will always be the crux of obstinate philo-Aryan linguists, who will never be able to find the key to interpret it.

It may be admitted that the Etruscan colony which occupied the Umbrian territory could not have been very numerous, but by its superiority in civilisation it was able to dominate, morally and materially, the surrounding population, and was hence able to influence change of customs, among others the mode of burial, which afterwards was nearly

[1] "The Ethnological Affinities of the Ancient Etruscans," *Proc. Am. Phil. Soc.*, Philadelphia, vol. xxvi., 1889; *ib.*, "On Etruscan and Libyan Names," *loc. cit.*, vol. xxviii., 1890.

[2] See *Arii e Italici*, p. 175.

always mixed, inhumation and cremation existing side by side among the subjugated population, as I have myself been able to observe when assisting in the excavation of poor and common graves in this region.

True primitive Etruscan tombs are chambered, and more or less rich and spacious; those dug out in the rock or earth, though chambered yet small and poor,

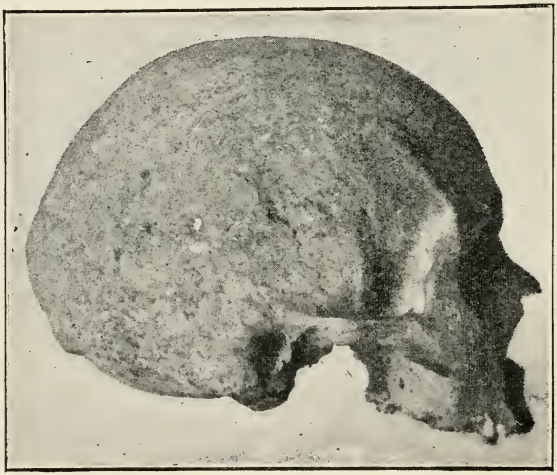

FIG. 40.—Etruscan Skull from Cere, *Ellipsoides embolicus* (Sergi).

must belong to the common folk who had been Etruscanised. Hence it is easy to argue that not all the skeletons in the Etruscan territory are Etruscan; the greater part must belong to a population anterior to the Etruscan colonisation, though it underwent the influence of the new dominion.

This influence, strong as it was, was not strong enough to transform the language of the conquered

into that of the conquerors; after the destruction of the Etruscan dominion the Etruscan language disappeared for ever, leaving in stone records inscriptions that are undeciphered and indecipherable, in spite of the fact that sometimes they are bilingual.

The true and permanent Etruscan influence was that of the civilisation taken as a whole, both as the point of departure for the future Latin civilisation, and also as an expansion of the civilisation of the eastern Mediterranean in Italy and towards Central and Northern Europe.

CHAPTER X.

MIGRATIONS BEYOND THE MEDITERRANEAN.

Current opinions regarding the first inhabitants of Europe—Europe not peopled from the North—Homo Neanderthalensis.

Current opinions regarding the first inhabitants of Europe.—Now that we have seen what manner of people constituted the primitive population of the Mediterranean basin, we have to inquire whether the African emigration proceeded still further towards the north beyond the great basin. This inquiry is interesting not only from the anthropological point of view, but also as regards ethnology and the origins and diffusion of the civilisations which have succeeded one another in Europe and the Mediterranean itself.

But in entering on this fresh investigation it is opportune to recall a principle which lies at the foundation of the method employed in my researches. I have written elsewhere[1]:—"It is necessary, it seems to me, to begin anew as though no classification yet existed, and to begin with a simple and rational method; it is necessary to study a human group by means of its constant characters, without any reference to its history or its state of culture, to establish the characters revealed by analysis and to follow them in other human groups in geographical distribution,

[1] *Africa*, Prefazione, p. viii.

without pre-occupying ourselves too much with their secondary characters and the variations which occur in these, to explain, in short, the causes of these variations and to determine human varieties."

The reader who has followed me so far will see that I have carried out this principle in analysing the peoples of the Mediterranean, whose cradle and a large part of their distribution is to be found in Africa; the same principle has guided me in investigating the Hamitic stock in Africa and in classifying it among human varieties. This same principle will serve us in inquiring whether the African migrations, besides peopling the Mediterranean, have also occupied other parts of Europe. Before entering on this inquiry I will briefly summarise the dominant opinions regarding the first inhabitants of Europe.

It was De Quatrefages, the most eminent of French anthropologists, who risked a general synthesis of the primitive inhabitants of Europe. He was a man of large intellect and of deep intuitions, while Broca was occupied with the details of the data of anthropological science, of which he may be regarded as the founder in France, and seldom ventured on any synthesis of its elements, in his time scattered and uncertain. Perhaps in this he showed that prudence which is one of the highest qualities of well-balanced minds; but it is useful, and perhaps even necessary, to attempt a synthesis, even though only provisional, of the mass of disconnected facts; such a synthesis becomes a point of departure for later researches and interpretations, and is useful to the progress of knowledge.

De Quatrefages's work was continuous and always developing, though always in the same sense and the

same direction. The reader of his works on the human species, on the skulls of human races, on fossil man and primitive man, will find few changes; the direction of ideas and affirmations is identical throughout. At the period when he wrote, the well-known discoveries at Cro-Magnon, Grenelle, Furfooz, and elsewhere had not been revised; like other anthropologists and ethnologists, he regarded them as quaternary. With this conviction, due to the age in which he wrote, he reconstructed the primitive quaternary races, of which he concluded there were six: the race of Canstadt, the race of Cro-Magnon, the mesocephalic race of Furfooz, the sub-brachycephalic race of Furfooz, the race of Grenelle, and finally the race of Truchère. "All these races belonged to the quaternary epoch, which immediately preceded our own."[1] Tertiary man, the earliest man for De Quatrefages, was a precursor of quaternary man and of Canstadt race. He was not an evolutionist, and he did not accept, like G. de Mortillet, an intermediary being between man and the anthropoid apes. He accepted the Castenedolo man, the discoveries of Bourgeois and those of Capellini in Tuscany with regard to pliocene man.

When he maintained the continuation of the Cro-Magnon race to the neolithic period, against the arguments of De Baye, Broca, Hamy (his eminent collaborator and the successor to his chair), and others, he relied chiefly on the implements of the Cro-Magnon man, which resemble the neolithic, and since at that time the Cro-Magnon man was regarded as quaternary he was right. It must be said to the honour of his perspicacity that he accepted the per-

[1] *Hommes fossiles et Hommes sauvages*, p. 59. Paris, 1884.

sistence of the quaternary populations, such as he believed them to be and had named them, and refused to admit that hiatus between the palæolithic and neolithic epochs which was accepted by all his contemporaries, including even Mortillet. Time has shown that he was right, and Piette's discovery of a pre-neolithic period has confirmed the opinions of the anthropologist of the Paris Museum of Natural History.[1]

Many corrections, however, have to be made in the so-called quaternary discoveries at Cro-Magnon, Grenelle, Furfooz, and elsewhere,[2] and few remains are now recognised as of that early epoch, except some fragments bearing witness to the physical shape of man. In spite of recent doubts, the Neanderthal skull remains as evidence of quaternary man, and some skeletons, with fragments from the relatively recent Magdalenian quaternary epoch, between palæolithic and neolithic times. Cro-Magnon, Grenelle, and Furfooz are neolithic and of different periods.

Thus many of the theories set forth by De Quatrefages and others fall to the ground; if we admit that the skulls of Grenelle, Truchère, and Trou-du-Frontal are not quaternary, any hypothesis as to the origin of quaternary brachycephaly is unnecessary, for it is only in the latest neolithic graves that brachycephals appear.

Of French anthropologists who since De Quatrefages have attempted a synthesis of the early inhabi-

[1] De Quatrefages, *L'espèce Humaine*, Paris, 1877; *Histoire générale des Races Humaines*, Paris, 1889; De Quatrefages and Hamy, *Crania Ethnica*, Paris, 1882.

[2] Among these must be mentioned that at Cantelupo in Latium, regarded as quaternary, and now recognised as late neolithic—that is to say, æneolithic.

tants of Europe, De Mortillet, Hervé, and Salmon are the most notable, and those showing the least disagreement in their facts and explanations.

Salmon divides the Stone Age into three great periods: the quaternary palæolithic, the mesolithic as characterised by the Magdalenian epoch, and the neolithic. With regard to human types, as shown by crania, he accepts the division made by Hervé, who divides the quaternary or first period of the Palæolithic Age into lower, middle, and upper, distinctly seen in the Chelle, Moustier, and Magdalenian epochs. He considers that we know nothing of lower quaternary man, but that we know middle and upper quaternary man by means of the skulls from Spy, Laugerie-Basse, and Chancelade. The Magdalenian form of Laugerie-Chancelade survived through the mesolithic transition, and is to be found in the early neolithic form of Baumes-Chaudes. This type was followed by the brachycephalic of Gaul, immigrating before the neolithic dolichocephal, and then that of Grenelle. Lastly came the neolithic dolichocephal, a new immigrant, bringing new elements of civilisation together with polished stone implements.[1]

Hervé finds that the Magdalenian race was continued in the Neolithic represented at Baumes-Chaudes-Cro-Magnon; this descendant of Chancelade had nothing in common with the man of Neanderthal. As regards the brachycephalic type, Hervé believes that there was an immigration at

[1] Cf. Salmon, "Sur l'utilité de la nouvelle division palèthnologique de l'âge de la pierre," *Bull. Soc. Dauphinoise d'Ethnologie*, etc., Grenoble, 1894; *id.*, "Dénombrement et types des crânes néolithiques de la Gaule," *Revue mensuelle d'Anthropologie*, Paris, 1895.

the beginning of this age, the brachycephals of Grenelle representing their vanguard, then already diffused over a vast portion of Western Europe. This element, during the Neolithic Age, mingled with the ancient long-headed race.[1]

For De Mortillet things happened somewhat differently. A convinced evolutionist, he believed that the race of Neanderthal and Spy was continued in the forms of Laugerie and Chancelade, which were thus a transformation of the well-known quaternary type. There followed an invasion of brachycephals, similar to that accepted by Hervé and Salmon, and the appearance of the ancient tall dolichocephals. Thus for this eminent French ethnologist there was a formation of neolithic races on the basis of a transformation of the first quaternary type of Neanderthal and Spy. This opinion, though maintained by Mortillet during many years, has not been accepted in France nor elsewhere.[2]

The problem of ancient races seems to be simplified for French anthropologists since such races appear to be reducible to four: a primitive quaternary dolichocephalic, that of Neanderthal-Spy; a mesolithic, also quaternary, but recent, that of Chancelade-Laugerie; a third, brachycephalic, of the Grenelle type; a fourth, new dolichocephalic neolithic type, of recent arrival, and represented by the Genay (Côte-d'Or) skull. But this is an illusion; there are many complications and many secondary divisions, though these are in part

[1] Hervé, "La Race des Troglodytes Magdaléniens," *Revue de l'École d'Anth.*, 1893; *id.*, "Distribution en France de la Race Néolithique de Baumes-Chaudes," *Revue de l'École*, etc., 1894.

[2] *Précis d'Anthropologie*, p. 372, 1887; *id.*, "Les Brachycéphales Néolithiques," *Revue de l'École*, etc., 1894-5.

reduced by Hervé after a detailed analysis of the skulls of brachycephalic type.

In the *Crania Ethnica* four types and four races of this brachycephalic character were recognised; Hervé reduces to three the morphological neolithic types of Furfooz and Grenelle, of which the two types of Furfooz represent two sub-types, varieties due to a crossing with the indigenous element. Grenelle is the pure race, that of the neolithic brachycephals.[1] The two types of Furfooz—one sub-brachycephalic, the other mesaticephalic—derived, according to Hervé, from the pure brachycephal of Grenelle, are widely distributed, reaching as far as the Mediterranean. Where brachycephals and sub-brachycephals exist, mesaticephals are also to be found; but the converse is not true, mesaticephaly having a much wider area of extension than the other three forms.

But how is it possible to find a large number of mesaticephals where the brachycephals, from which they are supposed to be derived, are not found? Hervé thus explains this phenomenon: the brachycephals found in the two chief regions, the Belgic and the Allobrogic, as he terms them, only reached the mesaticephalic area in small number, being absorbed by the long-headed population, leaving a number of half-breeds, the mesaticephals. In my opinion, however, the theory that mesaticephals are the result of crossing is a fundamental error. If the pure types are absorbed I do not see how the cross-breeds can resist, for we know that types due to mingling of race disappear, allowing the pure type to re-appear. To me it seems that the mesaticephals are as primitive as the dolichocephals and the brachycephals.

[1] Hervé, "Les Brachycéphales Néolithiques," *loc. cit.*

For De Quatrefages the Grenelle brachycephals (a quaternary population, as he supposes) were Lapps; Hervé and other French anthropologists also believe in a Lapp immigration. The difference between De Quatrefages and the others is only one of epoch, which is now supposed to be towards the end of the neolithic age, if not indeed at the beginning of the age of metals.

It is important, however, to know the origins of the Magdalenian race as interpreted by Hervé, Salmon, and others; we must remark that this race may now be summarised in the formula Chancelade-Cro-Magnon-Baumes-Chaudes. De Quatrefages, Hamy, and at a later date Verneau considered that the Cro-Magnon race, then believed to be quaternary, migrated from the north to the south, and also occupied the Mediterranean basin with Africa, excluding Egypt and the Canary Islands. It was the so-called hyperborean theory of human palæontology, which Hamy maintained and subsequently abandoned. Now Hervé and others record this fact with complacency, but regretting that so able an anthropologist as Hamy should have abandoned the position. Hervé still maintains the old hyperborean theory, supporting his arguments more especially by Testut's observations regarding Chancelade man, and by other indications of ethnological character.

At Chancelade in Dordogne was discovered a quaternary station of the epoch called Magdalenian, and in it a human skeleton. From an investigation by Testut[1] it appeared that the skull (Fig. 41) has a capacity of 1,730 cc., a length of 193 mm.; breadth, 139; height, 150; with indices, respectively, of 72.02 and

[1] "Recherches," etc , *Bull. Soc. Anth. de Lyon*, vol. viii., 1889.

77.7. The face has a bi-zygomatic breadth of 140 mm., and a height of 77, with index of 55; the nose has an index of 42.6. Hence the skull is dolichocephalic, hypsicephalic, leptoprosopic, and leptorhine.

Testut declares that this Chancelade skull shows the characteristics of the higher races. To the individual with this large cranial capacity he attributes a stature of 1.50 m., according to his own calculations; fresh calculations raise the height to 1.592 m., but it remains low.

At the same time Testut observes that this cranial

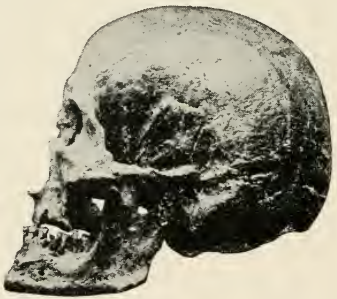

FIG. 41.—Chancelade Skull (Testut).

type had nothing in common with that of Neanderthal and Spy, while it has a resemblance to the skulls of Cro-Magnon, Sordes, L'Homme-Mort, and Laugerie-Basse, whether these belong to upper quaternary or neolithic times. Towards the end of his study he asks if the Chancelade man belonged to the same racial type as the Cro-Magnon man, and he replies in the negative, on the ground that the latter had a stature of 1.80 to 1.90 m., and the former of only 1.50 m., the former also having a broad face with bi-zygomatic diameter of 143 mm., and the latter a long face with

bi-zygomatic diameter of 140, and greater facial height.

These are, in fact, important differences, the chief among them being those in stature and in facial index. As regards the first point, we cannot explain how a skull of such large capacity should be normally united with so low a stature, if we were not rendered suspicious by shape and curvature of the thighs, the relatively excessive development of the upper limbs as compared to the lower, the large dimensions of the foot, and other facts and indications of abnormality, which lead us to think of a rachitic and deformed skeleton.

Testut, however, finds analogies between the Chancelade and the Eskimo skull, and brings forward a series of cephalic indices. Apart from the fact, which I have so often encountered, that indices may serve to approximate the most diverse forms, and to separate the most homogeneous, I could show that cranial height indices of from 77 to 80 are common in the skulls of northern and eastern Africa, including ancient Egypt, and I could show a series of skulls of the eighth century B.C., discovered at Novilara (Pesaro), in which the roof-shaped form (*stegoides*) is common to many, with a face of indices between 55 and 60, and vertical forms similar to that of Chancelade, which I have termed *Pelasgicus*. Thus the Chancelade skull appears to me a *Pelasgicus stegoides* of the *Ellipsoides* class, still found to-day in East Africa. Why refer to the Eskimo a skull to be found so near as the Mediterranean? Testut himself admits that the Chancelade skull resembles those of Cro-Magnon, Sordes, and Laugerie.

Hervé takes up the problem of the Magdalenian

race, and separating it from the type of Neanderthal and Spy, accepts the conclusions of Testut concerning the origins of the Chancelade type; he finds its continuation at Laugerie, Cro-Magnon, and Sordes, that is to say that the Magdalenian race is continued into the Neolithic; he also confirms Testut's hypothesis concerning its northern origin, calling attention to some of the industrial products of the Magdalenian epoch which recall those of the Eskimo and other northern populations.[1] Thus for French anthropologists the men who peopled Europe in the quaternary epoch were either derived by transformation from the Neanderthal and Spy type, as Mortillet believed, or they came from the polar regions, and were related to the Lapps and the Eskimo.

Boyd Dawkins also finds a relationship between the cave-men and the Eskimo, chiefly in their implements and utensils, which are very similar, as also their ornaments, but instead of deriving the primitive inhabitants of Europe from the north, he believes that the Eskimo are the representatives of the cave-men driven out of their ancient regions in Europe and Asia. He writes:—"All these points of connection between the cave-men and the Eskimo can, in my opinion, be explained only on the hypothesis that they belong to the same race. To the objection that savage tribes, living under the same conditions, might independently invent the same implements, and that, therefore, the correspondence in question does not necessarily imply a unity of race, the answer may be made, that there are no savage tribes known which use the same set of implements without being connected by blood. The ruder and more common instruments, such as flakes,

[1] Hervé, "La Race des Troglodytes Magdaléniens," *loc. cit.*

and in a lesser degree scrapers, are of little value in classification, but where a whole set agrees, intended for various uses, and some of them rising above the most common wants of savage life, the argument as to race is of considerable weight. It is still further strengthened by the identity of art. The articles found in the caves of Britain, Belgium, France, or Switzerland differ scarcely more from those used in west Georgia than the latter from those of Greenland or Melville Peninsula.

"From these considerations it may be gathered that the Eskimo are probably the representatives of the cave-men, and protected within the Arctic Circle from those causes by which they have been driven from Europe and Asia. Unaccustomed to war themselves, they were probably driven from Europe and Asia by other tribes in the same manner as within the last century they have been driven further north by the attacks of the Red Indians."[1]

If we could accept the considerations brought forward by Dawkins, his conclusion would be near to the truth. But we have similar examples among populations very distant from each other; must we, therefore, on this ground accept unity of race? It seems to me, on the other hand, that the resemblances in the geological and climatic conditions of Europe at that remote epoch, were the cause of the similarity in the products of the primitive inhabitants of Europe in Switzerland, Belgium, and Great Britain to those of the Eskimo.

The German anthropologists have no general theories concerning the primitive inhabitants of Europe. They have endeavoured to discover the

[1] *Early Man in Britain*, pp. 241-42.

Aryans, and especially the German Aryans, believing that they can recognise these in the tall long-headed blonds of the so-called *Reihengräber*.

Europe not Peopled from the North.—One of the chief and characteristic defects in the work of anthropologists in all countries is (as I have sought to show on various occasions) the lack of a true taxonomic method; in other words, there is no sound criterion of classification. Cephalic indices are not sufficient, and anthropologists often abuse them, or regard them as of secondary value, without supplying any sure and stable character in their place. If we ask Hervé and Salmon to furnish a calculable and convincing difference between the Magdalenian dolichocephals and the other neolithic peoples, they cannot do so. The numerical variation of a few units cannot constitute a difference of race; an index of 74 is in its ethnic significance the same as one of 76 and 77, and it would be absurd to suppose otherwise. While it is generally agreed that the Neanderthal cranial type is different from such a type as that of Cro-Magnon, Mortillet, relying exclusively on the current method of indices, was justified in regarding them as both of the same race.

But let us consider the form of the skull: a skull with a wedge-shaped occiput is different from a skull with a rounded occiput, in spite of any similarity in cephalic index; thus the Chancelade skull may be placed among Eskimo skulls as regards cephalic index and capacity, though skulls of identical type are found in Egypt, in East Africa, in the Canaries, in Italy. Shall we say then that Europe and a part of Africa have been peopled from the North Pole, and that the Egyptians were of Eskimo origin? I do not know

how it is possible to maintain any such hypothesis of the northern origin of European peoples, thus overthrowing not only the origins of man but of the whole flora and fauna.

A Scandinavian naturalist, in a work dealing with the flora and fauna of that peninsula, confirms the statement that Scandinavia was not inhabited before the neolithic epoch. Of palæolithic man scarcely a vestige can be found, and the importers of neolithic culture, he writes, must have migrated from Africa or the Iberian peninsula; such an immigration would be in harmonious relationship with an increase in the temperature of the climate of Europe after the glacial epoch.[1] This statement is in full accord with the prehistoric data, according to Montelius, an authority above suspicion in the accuracy of his observations.[2] If, therefore, on account of the low temperature northern Europe could not be inhabited by man until after the glacial epoch, it is not easy to see how the centre and south of Europe could be invaded by a race originating in the north in the quaternary epoch; for if Chancelade, Laugerie-Basse, and other places show the Eskimo type, according to Testut and Hervé, and the implements of Laugerie are also of northern type, there must have been a migration from the north to the south, at that remote epoch, of a population arising in a clime even more unfavourable than that region is now.

We cannot accept the evidence of the cephalic

[1] Andersen, *Svenska växtvärldens historia, i Korthet framställd*, Stockholm, 1896; cf. Krause, "Die Anfang der Kultur in Scandinavia," *Globus*, LXXI. 9, 27th Feb. 1897.

[2] Montelius, "De Förhistoriska Perioderna in Skandinavien," *Manadsblad*, Stockholm, 1893; *id.*, *Les Temps Préhistoriques en Suède et dans les autres Pays Scandinaves*, Paris, 1895, p. 11.

index when that evidence is contradicted by other important facts. Nor can I consider exact the other criterion, in accordance with which we must unite all the physical and even psychological characters of man in order to establish a classification of races. I have maintained for some years that we need only select a single character and can classify by means of that, completing the classification, or rather the classified types, by such other characters as may be found. But the character to be selected as the means of

FIG. 42.—Calvaria of *Pithecanthropus* (Dubois).

classification must be constant, persistent, stable, and then the other characters may be used to complete the established type. I have found such a character in the form of the skull, in spite of the slight variations it may present, because I have been able to recognise its stability from the earliest appearance of man in prehistoric times. The method has now been proved by practical applications, and I have succeeded in establishing certain human groups with a certainty derived from numerous and homogeneous observa-

tions.[1] The same criterion serves to delineate the natural history of the first inhabitants of Europe.

Homo Neanderthalensis.—It is definitely accepted that the Neanderthal skull is the most ancient witness to the appearance in Europe of man with well-defined osteological characters; we may leave the question of tertiary man unprejudiced in order to deal with quaternary man. If the human remains of Castenedolo

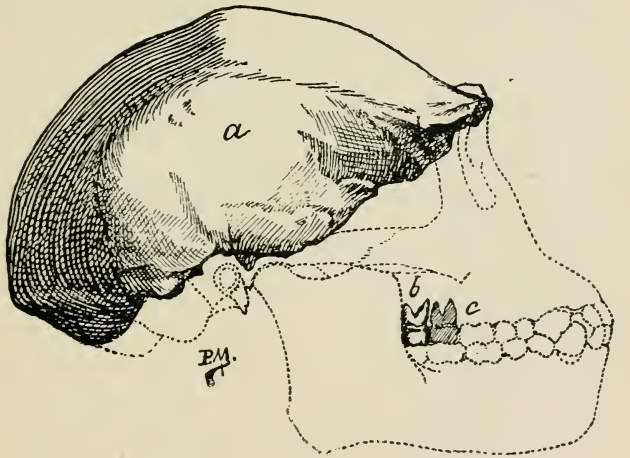

FIG. 43.—Skull of the *Pithecanthropus erectus* (Dubois and Manouvrier).

represent tertiary man of the Pliocene epoch, it would not be very surprising not to find them lower; an intermediary type scarcely seems to me probable, because such types could hardly resist and survive. The *Pithecanthropus* (Figs. 42, 43) of Java, it is true, is an animal with some human characteristics, but, in my

[1] See especially *Africa*, 1897, and my recent book, *Specie e Varietà Umane: Principi e Metodo d'una Sistematica Antropologica*, 1900.

opinion, it is not man nor the intermediary type; it is a higher type of the other anthropomorphic species.[1] The history of evolution shows us species which represent stages of progress in form and structure, but not transitory types. Hence, it seems to me, neither is the *Pithecanthropus* a precursor, in Mortillet's sense, nor is Neanderthal man a species evolved from it, to evolve still further in the successive European forms such as are visible in the man of Chancelade and Cro-Magnon. The Neanderthal type seems to me a species distinct by itself, the most ancient that we know in quaternary times, and distinguishable in subsequent epochs, leaving few but sure records of its existence even in the present epoch.

Homo Neanderthalensis (Fig. 44) is thus, according to my criteria, a European species, originating in Europe in early quaternary, or possibly late tertiary times; on this point we still know nothing definite. It has been found in the caves of Neanderthal, Spy, and other spots in Central Europe. I cannot believe that Nicolucci's Isola del Liri skull is quaternary; its shape resembles the most recent higher European forms, and it appears to me to belong to the Eur-african species. The Olmo skull also, formerly regarded as tertiary, is very dubious, and seems to me to belong to the bronze age. Hitherto *Homo Neanderthalensis* has not been found in southern Europe, only to the north of the Alps, and in England the fragments from Tilbury and Bury St. Edmunds are regarded as belonging to the type.

It is important to point out that *Homo Neander-*

[1] For some account of the *Pithecanthropus erectus* skull, as to the human character of which anthropologists are not agreed, see Deniker, *Races of Man*, pp. 359-361.

thalensis has not completely disappeared in Europe in spite of the arrival of a new species from Africa, but persists in the Baltic, in Friesland, as Spengel has shown.[1] De Quatrefages admitted this survival. Davis also pointed out examples, and in some Friesland skulls studied by Sasse and Virchow[2] I have found the Neanderthal type, as also I have been able to show it in a mixed form in other regions of central Europe.

FIG. 44.—Spy Skull, first quaternary race (Fraipont and Jacques).

It is desirable to note this survival of the Neanderthal man for various reasons. It shows the persistence of cranial forms through many thousand years and in spite of mixture with other species; it also shows that the forms subsequently prevailing are not—as believed by Penka and, on other grounds and with another scientific object,

[1] Spengel, "Schädel von Neanderthal-Typus," *Arch. f. Anth.*, viii., 1875.

[2] Sasse, "Schädel aus dem Nordholländischen Westfriesland," *Arch. f. Anth.*, ix., 1876; Virchow, *Beiträge*, *loc. cit.*

Mortillet — derived from *Homo Neanderthalensis*. Such facts justify the principles, including that of the persistence of forms, which I have maintained for some time past.

Excluding, therefore, the Neanderthal man from our inquiry, we may turn to the subsequent human varieties which, as we shall see, still constitute for the most part the basis of the present populations. The available data, belonging in part to the last quaternary epoch, but chiefly to neolithic days, extend from Switzerland to Scandinavia, from the west of France to southern Russia. They show us, unless we wish to overturn the natural order in the origins of the fauna and flora, that Europe was not peopled in prehistoric times from the polar circle but from tropical regions.

CHAPTER XI.

MIGRATIONS BEYOND THE MEDITERRANEAN (*continued*).

Great Britain—France—Switzerland—Germany—Bohemia—Scandinavia—Russia.

Great Britain.—More than thirty years ago Thurnam showed that in the long-chambered tumuli of England, especially in the south-west, in Wilts and Gloucestershire, were deposited the dead of a primitive population, long-headed or dolichocephalic, and with special characters, while the round tumuli revealed the remains of another distinct stock, with short and broad heads, or brachycephalic. The men of the Long Barrows, according to Thurnam, were dolichocephals; the men of the Round Barrows, brachycephals.[1] Greenwell further showed that in the majority of the sepulchral tumuli bronze is only exceptionally found; in 379 graves, in 78 of which the remains were cremated and in 301 buried, bronze was only found 14 times among the buried, and twice among the cremated.[2] Thurnam believed that the dolichocephalic stock was anterior to the brachycephalic, which had imported the bronze, as also

[1] "On the two principal Forms of ancient British and Gaulish Skulls," *Memoirs of the Anthrop. Society of London*, vol. i.; "Further Researches," etc., in *Memoirs, cit.*, vol. iii.; *Crania Britannica*, in collaboration with Davis.

[2] *British Barrows*, Oxford, 1877.

did Greenwell, and others after them, including Garson. The later stock, it was believed, had come from Belgium and France; it had conquered and in part displaced the earlier population, in part mixed with them, as appeared from mingling in the graves, finally becoming dominant: this new stock was the Celtic.

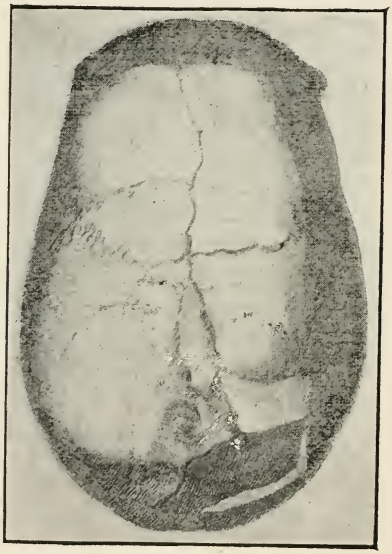

FIG. 45.—Skull from British Barrow, *Ovoides longissimus* (Greenwell and Rolleston).

It is important to note that the primitive long-headed stock is by Thurnam and others, who have examined the skulls, regarded as immigrating from the Iberian peninsula, and hence called the Iberian stock. Thurnam compared the British skulls with the Basque skulls studied by Broca, and found great

resemblance in form.[1] I have compared the forms of the skulls from the British graves with ancient and modern Mediterranean skulls, and have found those characteristic of Spain, of Portugal taken from Mugem, of the Italian caves, of Greece, of Hissarlik, of East Africa. I have found among them the ellipsoidal shape with compressed sides, which I call

FIG. 46.—Skull from British Barrow, *Ellipsoides pelasgicus* (Greenwell and Rolleston).

Pelasgic,[2] also found at Casa da Moura, at Novilara, and in Abyssinia, where it is fairly common, and the fine oval forms described as common, by those who have studied them, throughout peninsular and

[1] Cf. Thurnam, *op. cit.*, vol. i., p. 133, figs. 12 and 13; p. 162, figs. 15 and 16; plate I., figs. 1 to 3; also Dawkins, *Early Man in Britain*, London, 1880, ch. ix.

[2] Cf. Thurnam, "Further Researches," etc., vol. iii., plate i., the three characteristic figures from South Wilts, *Crania Britannica*, plate ii. (22), xvi. (33), xxv. (24), xxvi. (50).

insular Greece, Latium, and the rest of Italy, Spain, North and East Africa, including ancient Egypt. I have also seen and recognised Etruscan forms, Cretan of the Mycenæan era, and others similar (Figs. 45 to 47). These facts convince me that the Mediterranean stock, which with one of its branches had occupied the Iberian peninsula, extended beyond the Pyrenees and invaded France, as we shall see, and then Britain, constructing tumuli for its dead wherever it took possession.

Dr. Garson has confirmed with considerable fresh evidence the arguments of Thurnam and others, in a lecture on early British races.[1] "Osteological remains of the Neolithic people," he remarks, "are distributed all over Britain, from the south of England to the extreme north of Scotland. They are most numerous in the south-west of England, especially in Wilts and Gloucestershire, the part of the country occupied by the Drobuni, or Silures, at the beginning of the historic period. They have been found in considerable numbers in Yorkshire, Derbyshire, and Stafford. Huxley and Wilson have described the same race from horned cairns in Caithness, and from other places of Scotland. I have described them from Wiltshire, Yorkshire, Middlesex, and from Orkney."

The general description given by Garson of the characters of the skeletons is very interesting, because it may apply to those of East Africa, Egypt, and other parts of the Mediterranean. "The characters of the skeletons are well marked," he tells us. "The skull is large and well formed, the calvaria is long and proportionally narrow, having a cephalic index

[1] *Nature*, 15th and 22nd Nov., 1894.

of about 70, and of oval shape.[1] The superciliary ridges and glabella are moderately or even feebly developed, the forehead is well formed, narrow, and curves gracefully to the occiput, which is full and rounded. The upper margins of the orbits are thin, and the malar bones are never prominent; the profile of the face is vertical, and there is no tendency to prognathism; the chin is prominent, the symphesial angle is from 70 to 80 degrees; the length

FIG. 47.—Skull from British Barrow, *Ellipsoides sphyroides* (Greenwell and Rolleston).

of the face from the root of the nose is comparatively short, but as a whole the face is oval in form; the jaws are small and fine, the teeth are of medium size, and generally in a good state of preservation, not much worn down. The last molar is always the smallest tooth of that series. The facial characters

[1] It may be remarked that anthropologists have hitherto considered both ellipsoid and pentagonoid skulls oval; I distinguish between these two forms.

are mild, and without exaggerated development in any one direction; the same may be said of the calvaria generally. The stature of the Neolithic people is short; it averages 1.674 m. (5 ft. 6½ in.)."

Dr. Garson expresses himself clearly concerning the extension of the Neolithic race; he believes that the evidence renders it probable that the Neolithic population occupied at that time all the west of Europe, and in agreement with many other observers, considers it identical with the Iberian race, of which the Basques may be regarded as a residue. Garson also considers that the Neolithic people are not extinct in Britain, their descendants remaining to-day. It is true that subsequent invaders drove them, in many instances, to particular parts of the country, and they also mixed with their conquerors.[1]

France.—At a period when the caves at Cro-Magnon and L'Homme-Mort were not yet discovered, Thurnam had seen and studied the skulls from the tumuli of Meudon, Noyelles-sur-Mer, Nogent-les-Vierges, Chaumont, Orrouy, Avignon, and others, compared them with those from the British barrows, and concluded that they were of the same stock, the race that had occupied the British Isles having also at the same epoch established itself in France.

Many fresh discoveries were, however, made in France, first that of Cro-Magnon, then those of L'Homme-Mort, Solutré, Engis, Laugerie-Basse, Bruniquel, and many others. The male skull from Cro-Magnon, as is well known, served as a type for comparison with subsequent discoveries, and as it was regarded as quaternary by most anthropologists at

[1] Dawkins, *Early Man in Britain*, fig. 112, p. 318, ch. ix.

that time, it became the representative of a race which French anthropologists found diffused in many parts of Europe, the Canaries, and Africa, where the Berbers, according to Broca, are its modern representatives. As we have already seen, opinions in France have undergone revision. Cro-Magnon is neolithic, like Baumes-Chaudes and numberless other caves and graves; the late quaternary epoch is represented by Chancelade and Laugerie, in Dordogne. We have reason to believe that the first migrations from Africa to Europe took place precisely in the late quaternary epoch, and we find, by examination of the cranial shapes, that the skulls of Laugerie and Chancelade represent the first African migrants; the more or less ancient neolithic peoples are the migrants who succeeded, belonging to the same stock, which, perhaps at different epochs, became diffused throughout the European continent.

French anthropologists have recognised the Cro-Magnon form in some Spanish skulls discovered by Siret, as also in some found in the caves of Mentone and other parts of the Ligurian Riviera. Now that the Cro-Magnon skull is recognised as neolithic, I do not believe that it is necessary to assume an immigration of neolithic dolichocephals, as they are called in France, belonging to a different stock from the Baumes-Chaudes dolichocephals, considered by Hervé and others as continuing the Laugerie-Chancelade race. Both may be regarded as of the same family; the difference of a few units in the cephalic index cannot justify us in regarding them as of different race and origin.

Nor do I believe that the form of the Cro-Magnon skull can be regarded as exceptional, as Salmon

thinks,[1] it is a pentagonoid, as De Quatrefages recognised, and this form is found in all the Mediterranean and related families. Similarly I do not believe that we should see racial differences in skulls because one has a rounded occiput, another is wedge-shaped, or with a heel or chignon, as the French anthropologists say; we may consider these as associated sub-forms within the same stock, variations of a single type.

The African migration which traversed the Mediterranean and occupied the southern regions of Europe must have reached France by two roads, that is, by Spain across the Pyrenees, and by the Rhone. Thus it happens that we find traces and remains in the south of France, especially in Languedoc, where that branch of the Mediterranean family called Ligurian extends from the Iberian peninsula as far as Italy, while another branch, the Iberian, first occupying the peninsula which took its name, passed the Pyrenees, became spread over France, and migrated slowly into the British Isles. In Cæsar's time the Aquitani were to be found between the Garonne and the Pyrenees in contact with the Celts, who had confined them there by invading France, just as the Belgæ threw them against the Celts and enclosed them between the Seine and the Garonne.

If we take into consideration the caves and the graves of the dolmens discovered and examined in France, the stock must have been very numerous, especially in this epoch called neolithic. In an interesting summary of our knowledge with regard to the neolithic skulls of Gaul, Salmon refers to 140

[1] *Dénombrements et Types des Crânes néolithiques*, Paris, 1896, p. 11.

localities with graves containing skulls that could be examined, and about 4000 neolithic graves in which the skulls are either lost or no longer measurable.[1] This large number of graves serves to show the density of the neolithic population.

Switzerland.—I have found new and almost unexpected evidence concerning the expansion of the Mediterranean stock in prehistoric Switzerland. This evidence is furnished by the very ancient skulls belonging to the Helvetian peoples of the stone, copper, and bronze ages.[2] These not only presented different characters from those recorded by His and Rütimeyer[3] many years previously, but they preserved in a surprising manner the most genuine characters of East African types. To my surprise I recognised the forms belonging to the Mediterranean stock among a population in which I had never suspected their existence. Among these forms predominated very marked pentagonoids, Egyptian rhomboids, ellipsoids, and ovoids, all very common in the Mediterranean population.

It is impossible not to infer from these facts an ancient migration towards the centre of France, such as that which is borne witness to by the Cro-Magnon race. I believe that the easiest road such a migration could have followed is that through the Rhone Valley, where we find the Ligurians of the same family, and then turning towards the east, where the immigrants occupied the Alpine heights which to-day are Switzerland. Afterwards the Celts arrived here, wholly or

[1] *Loc. cit.*

[2] Cf. Studer and Bannwarth, *Cranica Helvetica Antiqua*, Leipzig, 1894, and my classification of such skulls in *Archiv für Anthropologie*, vol. xxiii., 1895.

[3] Cf. *Crania Helvetica*, Basel, 1864.

partly driving out the early inhabitants, a phenomenon which happened also in France, Britain, and the Po valley.

Thus I wrote in the Italian edition of this work some years ago, and at a later date[1] drew various conclusions as to the early inhabitants of Europe, and especially of Switzerland. At that time I knew of no neolithic skulls having forms foreign to those of the Mediterranean. Professor Ripley of Boston has, however, opposed my interpretation, believing that in the skulls studied by Studer and Bannwarth there is evidence of the presence of the race that, with Linnæus, he calls Alpine: "Sergi's attempt to interpret the data otherwise is entirely erroneous."[2] Now, it is true that if we cling to the data of the cephalic index the Helvetian skulls of Studer and Bannwarth are dolichocephalic, mesocephalic, and brachycephalic; but if we classify them by their shape, as I have done, then we find that the brachycephals of this series do not reveal a racial element foreign to the Mediterranean.

Of the 35 skulls only 33 could be classified, and these belong to five varieties (with their sub-varieties), as follows:— I. RHOMBOIDES ÆGYPTICUS. II. PENTAGONOIDES: *a*, Brevis; *b*, Obtusus; *c*, Acutus (Fig. 48); *d*, Convexus. III. ELLIPSOIDES *a*, Stegoides, *b*, Cuneatus; *c*, Isopericampylos; *d*, Clitocephalus. IV. OOIDES: *a*, Medius; *b*, Parvus. V. BELOIDES[3]: *a*, Subtilis; *b*, Convexus. Now it is to be noted that the rhomboid and some pentagonoids have a brachycephalic index. Yet both are Mediterranean forms, and I have found them in ancient Egypt.[4] The authors who classify by the cephalic index are right in bringing this objection against me, but, as I have often shown, this criterion of classification is erroneous, confusing various shapes together; it is artificial and not natural, as is a classification based on shape.

If, however, a few brachycephalic skulls of really foreign form had been found I should not be surprised, now that I know how large is the number of such types which infiltrated Europe

[1] *Arii e Italici*, cap. iii.

[2] Ripley, *The Races of Europe*, New York, 1899, p. 501.

[3] It should be noted that this name takes the place of *Sphenoides*; see my *Specie e Varietà Umane*, 1900.

[4] *Sugli abitanti primitivi del Mediterraneo*, Florence, 1892.

towards the end of the neolithic epoch, and my conclusions would not on this account have suffered severely. In fact, I find recorded a skull from the lake dwellings in Switzerland which is not only brachycephalic, but of a shape that is foreign to the Mediterranean stock; yet it is neolithic. This skull was described and figured by Pitard;[1] though incomplete it is

FIG. 48.—Skull from Auvernier of the Bronze Age, *Pentagonoides acutus* (Sergi).

visibly a *Platycephalus orbicularis*, a form having nothing in common with Mediterranean forms. Thus I maintain the opinion that the primitive inhabitants of Switzerland were of African origin, like those of the Mediterranean.

Germany. — From the studies of Ecker and Von Hölder on the skeletons of the Alemanni and Franks

[1] *L'Anthropologie*, vol. x., No. 3, 1898, p. 281.

from the Rhine graves was developed the cranial type of the Reihengräber. It thus came to be believed that the Aryan Germans were the people with the physical characters attributed to the Germans of the fifth century whose skeletons are preserved in the Rhine graves: lofty stature, dolichocephalic skull, white skin, blue eyes, fair hair. But these graves contained other and different types, for the Alemanni and Franks were not and could not be without racial mixture. In spite, however, of the obstacle placed in the way of the Reihengräber Aryan theory by the existence of those different types, ever since that time it has entered into the ideas and sentiments of German anthropologists, as well as of others who are not Germans.

Hölder believes that the theory and the discovery are confirmed by the neolithic and later graves of Germany. In a study of the skeletons from the pre-Roman *Hügelgräber*, in which he investigates skulls belonging to the ages of stone and of bronze, the Hallstatt period, the beginning of the iron age, and the La Tène period, he reaches this conclusion:— "The investigation of 114 skulls of the pre-Roman epoch, examined according to the scheme of the Frankfort Convention, has yielded 64 dolichocephalic with index from 60 to 75, 34 mesocephalic with index from 75.4 to 79.4, and 16 brachycephalic from 80.1 to 89.8. The dolichocephalic and mesocephalic, which all have the essential characters of the Germanic type, are of the form already found in the Alemannic graves in our country. In the pre-Roman epoch the same racial elements occupied the soil of central and northern Germany free from the Roman dominion. Since these regions of our great country, as above

said, were occupied by the pure dolichocephalic Teutonic stock, it is easy to understand that in the Roman tombs at first only a few brachycephals, about 2 per cent., are met with, and that as we advance in the middle ages these become more numerous as contact with the southern brachycephals becomes greater.

"A similar relationship may be found also in the pre-Roman graves where the population was already in contact for many centuries with the brachycephalic zone and then underwent a stronger mixture than in the population of the more ancient tombs—that is to say, about 14.3 per cent.

"A clear idea of this process may be had by examining the cranial forms of the stone age and of that of La Tène. Only two skulls belonging to the stone age have been measured, with indices of 71.2 and 72.4. Of the bronze epoch were found four masculine skulls with indices between 72.3 and 75.4, and four feminine with indices between 70.4 and 77.1, together with one of 83.8; of the Hallstatt period were 49 masculine skulls, of which 46 between 60.0 and 79.2, and three between 80.3 and 86.9; also 38 feminine skulls, of which 29 between 68.6 and 78.7, and nine between 80.1 and 89.8.

"Of the La Tène period there were 15 skulls, 10 masculine, of which nine between 67.3 and 76.8, and one of 81.3; also five feminine, with inclusion of a child's, three between 75.4 and 79, and two of 81.2 and 82.7.

"On the whole, it must be admitted that the increase of the brachycephalic element becomes greater the nearer we approach the region of Roman dominion; thus it was that the great mass of brachy-

cephals reached our land, and that the Germanic element receded."[1]

The process described by Von Hölder is exact, it seems to me, only it is inexact to regard as Teutonic and Aryan the prehistoric dolichocephalic and mesocephalic element which harmonises with the Alemannic and Frankish element of the Roman graves (Reihengräber). This element, from the stone age up to historic times, is anterior to the Aryan invasion, and therefore not Germanic—merely Germanised, I would say—in language and customs. Here is the knot in the problem which the German anthropologists have been unable to untie in order to reach the natural solution, and yet for long past Germany has yielded neolithic burial-places which clearly show the characteristics of the primitive population of Germany and Europe generally, from south to north. One of the most interesting of these discoveries, made many years ago, is that of Hinkelstein, near Monsheim. It was discussed by Lindenschmit, and the skulls were studied by Ecker. These skulls were incomplete, one with cephalic index of 71.1, the other of 76.2; according to my classification, one is a long ovoid (*Ooides longus*), the other a flat ovoid (*Ooides planus*). To these was added another skull, from Oberingelheim, which was brachycephalic (81.9), but an acute pentagonoid in shape (as may be seen from the figure given by Ecker himself), and not different from the acute pentagonoids of the Mediterranean[2] (Fig. 49).

[1] *Untersuchungen über die Skelettfunde in den Vorrömischen Hügelgräbern Würtembergs und Hohenzollerns*, Stuttgart, 1894.

[2] Lindenschmit, "Das Gräberfeld am Hinkelstein bei Monsheim;" Ecker, "Einige Bemerkungen über die Skelette," etc., Plates III.-IV., *Archiv für Anthropologie*, iii., 1868.

Very interesting is the neolithic burial-place discovered at Worms by Köhl and described by him. The skeletons were examined by Virchow, and the skulls include five dolichocephals between 71.6 and 73.5, and one mesocephal of 78.7;[1] that is to say that they correspond to the Reihengräber types.

After these important discoveries at Worms, Professor Mehlis occupied himself with the much debated

FIG. 49.—Reihengräber Skull, *Pentagonoides acutus* (Von Hölder).

question of the origins of the first Germanic and especially neolithic populations. Comparing them with the Ligurians of southern France and of Italy, he decidedly asserts that these neolithic dolichocephals of Germany are also Ligurians.[2] In the Italian edition of this book I limited the diffusion of

[1] Köhl, *Neue prähistorische Funde aus Worms und Ungeburg*, Worms, 1896; *Zeitschrift für Ethnologie*, 1897, pp. 464-7.

[2] "Die Ligurerfrage," *Archiv für Anth.*, xxvi., 1899.

the stock to Switzerland and Great Britain, towards the west and north, and for lack of personal observation would not venture to go beyond these limits towards the centre and north of Europe. But a visit to Germany, a year later, which afforded me an opportunity of observing the Reihengräber cranial types, together with Dr. von Hölder, convinced me that they are of the same stock which peopled the Mediterranean. Its diffusion was therefore more extended than I had believed, and I then decided to declare my opinion, and wrote a note on the so-called Reihengräber type and its relation to Mediterranean types.[1] Now, without attaching importance to the racial name of Ligurian, I note with satisfaction the opinion of a German, who finds convergence or even identity of stock between the neolithic population of Germany and the Ligurians of Italy and France. Thus we are on the right road, and the Teutonic problem of the Aryans begins to find in Germany itself its natural solution: the so-called Reihengräber types are not Germanic Aryans, but belong to the pre-Aryan population.

Bohemia.—Here we are still on German territory; that is to say, the primitive neolithic population is the same, and shows the same characters; the region now Slav was not yet Slav, just as it is not Teutonic in the region where German is spoken.

Near Lobositz on the Elbe, Weinzerl of Prague discovered a vast burial-place, which he has fully described.[2] In its deeper strata the burial-place is

[1] "Ueber die sogenannten Reihengräber-typus," *Centralblatt. f. Anth.*, 1898.

[2] "Die prähistorische Wohnplatz und die Begränisstätte auf der Lösskuppe sudöstlich von Lobositz," *Zt. f. Ethnologie*, 1895; 1897, in Verhandlungen, pp. 42 *et seq.*

neolithic, containing graves in which the bodies had been buried in the earth in a crouching and bent position, then graves showing a stage of transition, then graves where incineration had been practised, and finally Roman graves. In subsequent years Weinzerl made new discoveries in the same district; the skulls were of the dolichocephalic form already noted, and as evidence that the long-headed neolithic population were different from the later population possessing bronze and burning their dead, instances were found in which the neolithic stratum of graves lay beneath the stratum belonging to the bronze age.[1] I can find no difference between these graves and those found by Köhl in the Teutonic district.

Dr. Matiegka has examined various Bohemian neolithic graves, in which the bodies are bent, as in almost all the neolithic graves of Europe, as well as of Egypt, and he gives indices of the skulls which are exactly those of the Germanic dolichocephals.[2]

I could enumerate other burial-places in Bohemia, as well as in Slav districts outside Bohemia, illustrating the same fact: that the first inhabitants of the region possessed cranial characters resembling those of the primitive populations of the Mediterranean, and belonged to the same family.

Scandinavia.—I have already remarked that in the Scandinavian peninsula no trace of palæolithic man can be found, so that the country was only inhabited from the neolithic epoch. I have also quoted the opinion of the Scandinavian naturalist, Andersen, who, in studying the fauna and flora of the peninsula, and considering the conditions of the

[1] *Loc. cit.*

[2] *Hroby se skrcenymi kostrami v Cechách*, Prague, 1892.

climate, concludes that the importers of neolithic civilisation must have been immigrants from Africa and the Iberian peninsula. My own studies and observations of the physical characters of the skeletons of Scandinavia bring me to the same conclusion, more especially since I have come to see that the Reihengräber Germanic type represents a northern race of African origin.[1]

Retzius long since concluded that in Scandinavia, as in Holland, the form of the skull of the primitive inhabitants was elongated or dolichocephalic;[2] the graves of the stone age bore witness to this fact,[3] which is fully confirmed by the persistence of this type up to the present, in spite of the infiltrations of a new and different people.

Justus Barth of Christiania has studied 161 Norwegian skulls from the ancient city of Tönsberg, and elsewhere in the south-east of Norway; they are some five hundred years old, as well as other skulls of the Viking age, that is to say, the iron age and the immediately preceding period. Now 153 such skulls have yielded the following results:—Dolichocephalic, 64 (41.8 per cent.); mesocephalic, 80 (52.3 per cent.); brachycephalic, 9 (5.9 per cent.). If, on the grounds previously given, we regard the dolichocephalic and mesocephalic as a single type, we have the enormous majority of 144, or 94.1 per cent., against 5.9 per cent. brachycephalic.

"Among these skulls," this author remarks, "is frequently met a very distinct form which I have

[1] *Arii e Italici*, cap. vi., ix.

[2] *Ethnologische Schriften*, Stockholm, 1864.

[3] Arbo, "Ossements humains de l'âge de la pierre en Norwège," *Revue d'Anth.*, 1882; cf. *Congrès internat. d'Anth. préhist. à Stockholm*, 1874, discussion by Dr. Düben.

termed 'Viking type,' since a large number of characteristic and noteworthy specimens belong to the Viking epoch, both in the Museum of the Anatomical Institute at Christiania and elsewhere. This type cannot be claimed as peculiar to Norway; it is an archæo-Germanic type, to judge from its agreement in form with the type long known as Reihengräber. The Viking type is not only found very frequently amidst ancient Norwegian skulls, but also among our contemporaries, especially in dolichocephalic and mesocephalic regions." [1]

I here reproduce (Fig. 50) from Barth's Plate II. the skull called "Viking type," or rather one of such types; it is a very fine specimen of acute pentagonoid; the other plates show various ellipsoid forms, neither more nor less than the Reihengräber and Mediterranean types.

Certainly it is not to be expected that throughout Norway and in the interior of the peninsula the old Viking type should predominate, for from the bronze age onwards new peoples migrated into Scandinavia, although in less number than in Central Europe.

From Arbo's studies of the living population, it appears that there are districts where the ancient type still predominates to an enormous extent, and others where the brachycephals predominate. Thus he found in Nordre Osterdal that the brachycephals were 43.3 per cent.; in Soudre Osterdal, 23.1 per cent.; in Nordre Guldbrandsdal, 12.7 per cent.; in Soudre Guldbrandsdal, 29.3; Ryfylke, 68.6; Jöderen, 81.9; Dalarna, 75.8; Stavanger, 55.8.

On this point Arbo makes an important observa-

[1] *Crania antiqua in parte orientali Norwegiæ Meridionalis inventa*, Christiania, 1896.

tion. "While in the Stavanger district," he writes, "the brachycephalic racial element predominates from the sea towards the mountains, in that of Lister-Mandal (West Agder) there is a successive diminution of this element from the west towards the east,

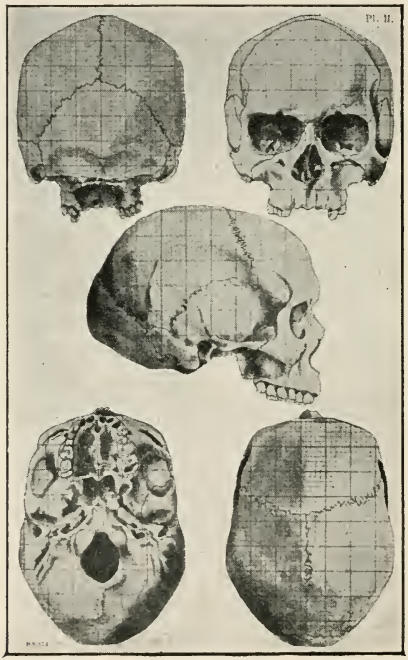

FIG. 50.—Skull of Viking type from Norway, *Pentagonoides acutus* (Barth).

with corresponding increase of the dolichocephals and mesocephals; but in a still more marked degree from the sea to the culminating point of the valleys, which here run north and south. Thus, while the average index towards the coast and in the low valleys is still

brachycephalic (at least as we go towards the east), it becomes mesocephalic in the high valleys."[1] This shows that the ancient long-headed population was pushed up the valleys by the broad-headed immigrants, who, as may be seen from Arbo's plate of cranial types, have cuneiform and platycephalic heads.[2]

The fact that the primitive inhabitants of Scandinavia, if we leave out of question the Lapp infiltration, are of the same physical type as that termed Reihengräber—wrongly believed, especially by German anthropologists, to be the genuine Aryan —together with their persistence even to-day, in spite of foreign immigration, Lapp, Finnic, German Aryan, from every side, have led to the illusion of Penka and others concerning the European origin of the Aryans, whose cradle has been sought precisely in Scandinavia. I have elsewhere brought forward good reasons to show that the Scandinavians occupied the peninsula only from the neolithic epoch, when the Aryan invasion drove the ancient stock towards the north, that is to say, towards the Baltic, where a portion of them crossed into Scandinavia and settled. To-day the cranial and skeletal facial forms show the relationship of the Scandinavians to the Mediterranean and African stock, while in other physical characters, such as stature and pigmentation, they constitute a distinct variety. Keane has objected to this relationship:—"But too much seems to be built on the common characters of these dolicho skulls, the two

[1] Arbo, *Fortsat'e Bidrag til Nordmændenes An'hropologi*, Christiania, 1895-1897; "La Carte de l'Indice céphalique en Norwège," *L'Anthropologie*, 1887.

[2] Cf. *op. cit.*, iii., 1895 pp. 20-21.

races being in most other respects quite different, the northerners tall, almost gigantic blonds, of robust if somewhat coarse physique, the southerners dark, short or medium-sized, with finely-proportioned but slender figures."[1] When dealing with the physical characters of the Eurafrican variety, we shall see what weight should be attached to this objection. Moreover, it is not merely dolichocephaly which unites the two varieties, but the existence of cranial variations common to both.

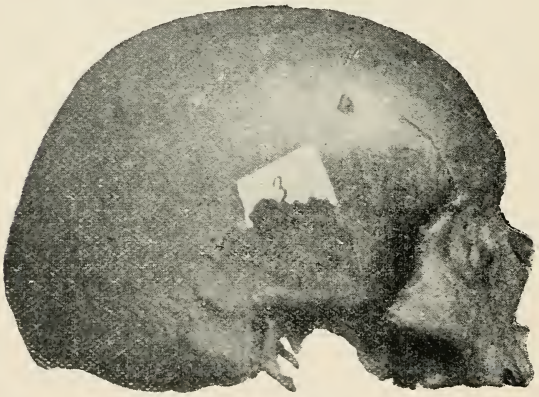

FIG. 51.—Kurgan Skull from Tver, *Ellipsoides embolicus* (Sergi).

Russia.—The first skull from Russia attributed without doubt to the stone age was discovered by Count Uvarof in the Government of Volosovo; it was examined by many, and showed a cephalic index of 80. Numerous skulls have been discovered since, though not always examined, among them some painted with red ochre, such as have been found in Bohemia, Germany, and Italy, especially in Liguria,

[1] *Man Past and Present*, pp. 513-14.

and then in Latium and Sicily.[1] Those examined according to craniometrical methods are dolichocephalic or mesocephalic; both alike, as well as the conditions under which they were found, bear witness to the presence of the stock which peopled the south and centre of Europe.

It is also interesting to know the results yielded by the numerous kurgans (or tumuli) of Russia. These kurgans are to be found from the Black Sea to the extreme north of the Empire. In 1892, at the time of the International Congress of Anthropology and Prehistoric Archæology, I was able to study a large number of skulls from the kurgans in the Moscow Anthropological Museum. I well remember the surprise I experienced on unexpectedly meeting cranial types already known to me, types I had studied in Italy, and had found in the peninsula itself or the islands, a type which had belonged to the ancient Greeks and the Egyptians of the old dynasties.

When publishing a catalogue of the varieties found in Russia,[2] I wrote as follows:—"I venture to say that when I am able to publish my complete study of ancient Russia, much that is now accepted in anthropology will undergo change. The methods hitherto adopted, uncertain and unfruitful, together with historical traditions modified by various scientific formulæ, have assigned an Asiatic origin to the primitive peoples of European Russia. Nor is this the only

[1] Cf. summaries in *Archiv für Anth.*, xiv., 1882, xxvi., 1899; Stieda, "Aus der Russischen Literatur; Ein dem Stenalter angehöriger Schädel, von Tichomirow;" Sergi, *Liguri e Celti nella valle del Po*, Florence, 1883.

[2] "Varietà umane della Russia e del Mediterraneo: Catalogo sistematico," *Atti della Società romana di Antropologia*, Rome, 1894.

error which we see to-day through the abundance of accumulated facts of observation, and the comparison of human varieties in the Mediterranean; it is Africa which, above all, has contributed the chief number of varieties to the Mediterranean and to southern and eastern Europe; Asia came later, to furnish an element which has been superposed at a relatively recent date, and which has not greatly modified the

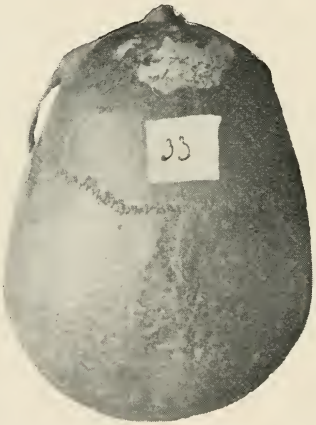

FIG. 52.—Kurgan Skull from Cernikov, *Beloides ægyptiacus* (Sergi).

racial elements of the Mediterranean, though it has somewhat changed those of Russia. Sure and unquestionable evidence of this is furnished by the human heads from the kurgans and the old Russian burial-places."

In examining and determining the cranial forms which I found in the Moscow Museum, I followed the method of the zoologist, who, when visiting a fresh region of the earth, and arranging the genera and

species and varieties of its fauna, adopts the existing names of recognised forms, and determines the geographical distribution of animals. Among the forms I examined I recognised forms I already knew as belonging to the Mediterranean, the fine pentagonal forms, ellipsoids and ovoids, with the same characters they possess in the Mediterranean; I saw also the secondary forms due to various migrations of peoples

FIG. 53.—Kurgan Skull from Smolensk, *Pentagonoides acutus* (Sergi).

at the most remote epochs, and I became convinced that the first colonists of southern Russia came from the Mediterranean. The road they traversed must have been the Propontis, by the Black Sea, and the Chersonese. If the Mediterranean elements may be found as far as the tumuli of the north—and I saw some from near Lake Ladoga and St. Petersburg—the fact may easily be explained when we think

of the slow infiltration and penetration of racial elements, either by mixture with other stocks or by the subjection and displacement of peoples.

It may not be uninteresting here to refer to the opinion of Bogdanof, who has had every opportunity of examining the cranial types of the kurgans, and has described them in many special memoirs. He finds that the primitive population of Russia was long-headed, and clearly distinct from the brachycephalic population which came later, and that this primitive population, instead of disappearing, became mixed with the invaders, still preserving numerical preponderance, as the proportions between dolichocephals and brachycephals in different tumuli, as at Cernikov, Tver, Novgorod, and elsewhere, clearly shows. Moreover, he affirms that these dolichocephalic skulls are not different from the so-called Reihengräber types of Germany, nor from the ancient Swedish skulls; and I may add that neither are they different, as I have many times found, from those of the Mediterranean. Hence Bogdanof concluded, in his special report to the International Congress of Prehistoric Anthropology at Moscow, that the original population of Russia was dolichocephalic, with well-formed, clear-cut forehead, not receding, and long face. Since these Russian long-heads are also found in other European lands, such as Austria, Germany, Sweden, and probably Denmark, he thinks that they are best called the primitive dolichocephalic and leptoprosopic Europeans. He excludes, therefore, the populations of the south, which he believes to be of another origin. In this, as I have already said, he errs, but he approaches the truth when he admits that the so-called primitive Teutons, primitive Slavs,

primitive Danes, primitive Swiss, constitute a primitive European population (*Ureuropäer*).[1] Doubtless the true Germans, Slavs, Danes, and Swiss are later and not belonging to the prehistoric populations.

Bogdanof's principal conclusions concerning the inhabitants of Russia agree with my examination of the skulls collected from the kurgans and studied

FIG. 54.—Kurgan Skull from Moscow, *Ellipsoides africus* (Sergi).

by the Russian anthropologist. They only differ in this, that he excludes the prehistoric inhabitants of southern Europe, while I consider that these, like those of central and western as well as northern and

[1] Cf. *Archiv für Anth.*, vol. xiv., 1882, xxvi. 1889, summary by Stieda of Russian anthropology; Bogdanof, "Quelle est la Race la plus ancienne de la Russie Centrale?" Moscow International Congress, 1892.

eastern Europe, have a single origin in Africa. I also find that primitive types prevail in the kurgans and diminish in the Moscow cemeteries of the sixteenth century. Of 1,160 skulls studied, in fact, I found that among the primitive population 56.56 were of the Mediterranean or Reihengräber type, and 43.43 per cent. foreign, while in the Moscow cemeteries the old population appeared diminished, being 45.58 per cent., and the new arrivals were 54.61 per cent.[1] Bogdanof himself had written that the dolichocephalic population gave way to the brachycephals.[2]

There can be no doubt that southern Russia especially, like the whole of western Europe, received its first inhabitants from Africa: the cranial types remain to attest the common origin (Figs. 51–54).

[1] Sergi, "Al Congresso di Mosca," *Atti Soc. rom. Ant.*, vol. v., 1898.

[2] "Beschreibung von Schädeln aus alten Moskauer Begräbnisstätten," summary by Stieda, *Archiv, cit.*, xiv., 1882.

CHAPTER XII.

RACIAL MINGLING.

The European Pigmies—The Neolithic Brachycephals—The End of the Diffusion and the New Invaders of Europe.

The European Pigmies.—If we may affirm the uniformity of the racial types in the populations of the Mediterranean family within and without the great basin, it must not be supposed that these types alone constituted the populations I have rapidly sketched; in the midst of these are other types with physical characters plainly revealing another stock, or even other African stocks, which have mingled with the stock whose history I have attempted to outline.

These stocks are inferior in the physical characters they present, of little or no æsthetic beauty, and of inferior development as regards cranial capacity and stature. They constitute a secondary, I might say accessory population, of little historical importance in the development of Mediterranean civilisation and the expansion of the chief stock.

Even this secondary population may be followed in analysing the racial elements which have composed the nations within and without the Mediterranean, and it is their head forms, shown in the skulls, which reveal the characteristic differences separating them from the dominating and directing stock. Attention may specially be directed to a stock which some

years ago I discovered in the Mediterranean and in Russia, of single origin but mixed with the families of peoples already described, and also coming, as I am led to believe, from Africa: I refer to the pigmy microcephalic stock.[1]

In various parts of Italy I have found heads so small, though normal in anatomical constitution, that

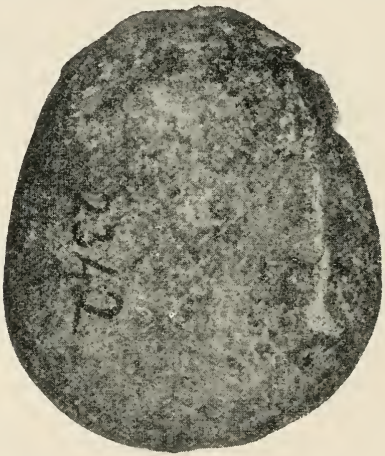

FIG. 55.—Æneolithic Skull from near Volterra, Italy, *Sphenoides latus* (Sergi).

I have been obliged to call them microcephalic, like others I have seen from Melanesia.[2] I have seen

[1] See "Varietà umane microcefaliche e pigmei d' Europa," *Bollettino Accad. medica di Roma*, xix., 1893; "Ueber die europäischen Pygmäen," Communication to Congress of Innsbrück, *Correspondenz-Blatt der Deutschen anthropol. Gesellschaft*, n. 10, 1894. Cf. "I Pigmei d' Europa," *Nuova Antologia*, Rome, 1893.

[2] See my classification in "Varietà umane della Melanesia," *Boll. Accad. medica di Roma*, 1892; "Le varietà umane, Principi e metodo di classificazione," *Atti Società romana di Antropologia*, vol. i., Rome, 1893; *Specie e Varietà Umane*, *cit.*, 1900.

similar types from the kurgans and ancient burial-places of Russia, and among the skulls which in the Mediterranean pass under the name of Phœnician. The types or shapes of these skulls are different, for the most part, from those belonging to the great stock, and they often present characters of inferiority

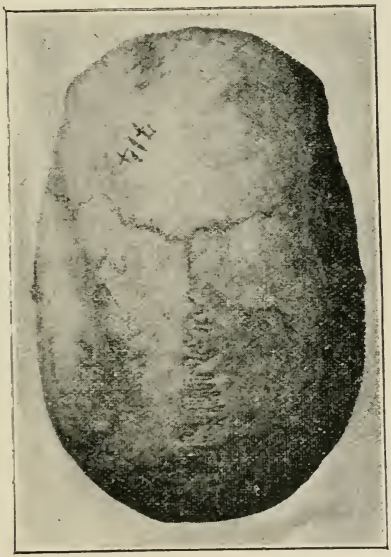

Fig. 56.—Eurafrican Skull from Abyssinia, *Ellipsoides pelasgicus* (Sergi).

in their structure. Many, including all those I have measured and consider to belong to the pigmy stock, are inferior in cranial capacity to the Nigritoes, or eastern pigmies.

The study of the living population in Italy, from the point of view of stature, confirms the indications derived from examination of the skulls as to the

existence of a pigmy population. I found that among the male population at twenty years of age there were 1.63 per cent. individuals between 1.25 m. and 1.45 m., and 14.49 per cent. between 1.25 m. and 1.53 m. Calculating together the male and female population, considered as thirty millions, there would be in absolute figures 978,000 male and female pigmies between 1.25 m. and 1.45 m, and 4,347,000 between 1.25 m. and 1.55 m., an enormous number for a population of thirty millions.

The low stature, the structure of the head, various external physical characters and peculiarities of the skeleton of the face and its fleshy coverings, led me to infer that in very ancient times there was an invasion of pigmies from Africa into the Mediterranean, also invading Russia and probably other European regions. It must also be supposed that the external physical characters have been modified by the long stay in Europe, and by mingling with the tall and fine stock from which hybrid forms would be derived.

The discovery of pigmies in neolithic graves of Switzerland confirmed my opinion as to their origin, more especially as in these graves were found ornaments formed of shells of Mediterranean origin, and as the head type in these Swiss pigmies resembled some at least (for the Swiss pigmies were few in number) that I had studied among the pigmies of the Mediterranean and Russia.[1] Kollmann, on the other hand, refuses to accept an African invasion, and regards the pigmies as earlier than the tall race, which was derived from them—a theory which I

[1] Cf. Kollmann, "Das Schweizerbild bei Schaffhausen und Pygmäen in Europa," *Zt. f. Eth.*, 1894; *Crania Helvetica Antiqua*, *cit.*, pp. 18-20.

cannot regard as possible. Virchow and Schmidt, again, believe that they only represent individual variations, and not a separate stock or racial variety.[1] These two anthropologists regard the pigmies as individual variations, because they believe that a people constitutes a race and not a composition of elements of different races—a common error among anthropologists, though this is not the place to demonstrate it.[2]

The geographical distribution of these pigmies further confirms the belief in their African origin; they must have mixed with the tall stock and followed it in its migrations through Europe, just as they have formed an inferior stratum of the Mediterranean population. In Italy they are especially common in the southern provinces and in the islands of Sicily and Sardinia, while they are much less frequently found in the Po valley and in Piedmont, where, indeed, there seem to be almost none.

Of other minglings, not numerous, it is true, there is no need to speak here. They seem to show, however, that even at very remote epochs men, either individually or in more or less numerous bodies, have moved from their places of origin and mingled with other peoples.

The Neolithic Brachycephals.—In reading Salmon's fine study of the neolithic skulls of Gaul, we meet with interesting statistics of the cranial types; of 688 neolithic skulls examined, 397 are dolichocephalic, 145 mesocephalic, and 146 brachycephalic.

[1] Virchow, *Festsitzung der Berlin Geselischaft Verhandlungen*, 17th Nov. 1894; Schmidt, *Globus*, No. 4, 1895.

[2] Cf. my note, "Intorno ai Pigmei d' Europa," *Att. Soc. rom. di Ant.*, vol. ii., 1895; also *Specie e Varietà Umane*, 1900.

If, according to my criterion, we unite the dolichocephalic and mesocephalic, they constitute 78.8 per cent. of the whole, and the brachycephalic 21.2 per cent.

These brachycephals are found not only in the neolithic graves of France; they are also found in Italy. In the Buca della Fate of Monte Tignoso,

FIG. 57.—Eurafrican Skull from Abyssinia, *Ellipsoides cuneatus* (Sergi).

near Livorno, many years ago, a neolithic grave yielded several human skeletons; two skulls only were preserved, and these are now to be found in the Rome Museum of Anthropology; one of them is brachycephalic of cuneiform type. Near Volterra also a similar grave has yielded similar skulls, to be found in the Rome Museum (Fig. 55). Prehistoric

Sicily, of the first Sicul period, according to Orsi's classification, shows similar cuneiform brachycephalic skulls.

How are we to interpret these facts?

In another work[1] I have shown how the pacific infiltration of new elements reaching Europe from Asia may explain the presence of such human types, before the great invasions which so greatly changed

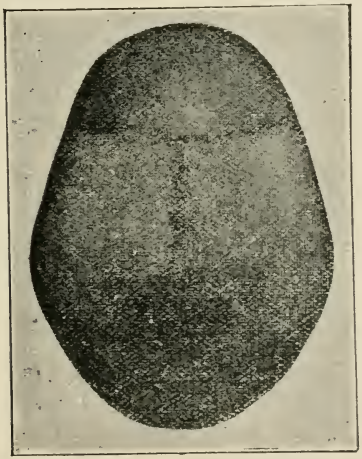

FIG. 58.—Eurafrican Skull from Abyssinia, *Pentagonoides acutus* (Sergi).

the anthropological face of Europe. I still maintain the same opinion in spite of some objections. These new racial elements in no respect changed the customs of the neolithic population with which they mixed; the immigrants accepted those customs entirely, including those which touch the deepest feelings, those referring to burial; that is to say that they adopted inhumation.

[1] *Arii e Italici*, pp. 130 *et seq.*

Nothing new is indeed seen, except here and there the presence of copper objects.

This has, with justice, led to the belief that the presence of the brachycephals is confined to the close of the neolithic period and the introduction of copper; in Italy this period is termed *æneolithic*, that is to say, the period of copper and polished stone together. To this period are ascribed the graves of Cantalupo, Monte Tignoso, Volterra, and others similar; we are already at the dawn of the age of metals.[1] In France it is difficult to discern the epochs so distinctly, but, doubtless, here also, as in Italy, the neolithic brachycephals must have arrived in the last or æneolithic period.

As regards the brachycephals with cuneiform skulls, in the neolithic graves of Sicily, I have shown that they are of Asiatic type, their arrival being due to the varied relations of Sicily with the eastern Mediterranean in prehistoric times, as clearly witnessed by the presence of objects of pre-Phœnician character.[2] This is not, however, the opinion of Professor Keane, who in his very important recent work believes it may be admitted that some of the European brachycephals arrived from Africa together with the dolichocephals.[3] He seeks to justify this opinion by the existence of certain brachycephalic types found by Collignon in the present population of the island of Gerba and in Tunis. I have, however, already pointed out that

[1] See Colini, "Il sepolcreto di Remedello e il periodo eneolitico in Italia," *Bollettino di Paletnologia Italiana*, 1899-1900.

[2] "Crani preistorici della Sicilia," *Att. Soc. rom. Antrop.*, vol. vi., i., 1899.

[3] *Man Past and Present*, *cit.*, pp. 454 *et seq.*

the present state of a population which has been mixed during a long series of historical periods, cannot, except in special cases, lead us to any safe conclusions regarding the primitive population. Moreover, the Roknia skulls, although possessing a brachycephalic index, belong to known Mediterranean types, as I have previously stated (Chapter VI.).

We may be perfectly assured that the truly brachycephalic types of Italy, Spain, and France are of Asiatic origin, some arriving from the east by sea, like those of Sicily, others coming by land, either from the east or north, like the Lapps; they preceded the violent invasions which also came by land. Africa, in its homogeneous population, which constitutes a Eurafrican variety, has never possessed cuneiform and spheroidal brachycephals as indigenous elements.

The end of the diffusion, and the new invaders of Europe.—The stock, originating in Africa, which I call Mediterranean, because in the Mediterranean it developed its aptitudes and civilisations, contributed without doubt, from primitive times till the late quaternary period, to the population of the whole Mediterranean and of many other regions of Europe, as I have shown in the preceding pages. Its evident traces are found in the dolmens and caves of France, in the Long Barrows of Great Britain, at Casa da Moura and Mugem in the Iberian peninsula, in the neolithic graves of Switzerland, in many tumuli in Russia, and even as far as the Canaries. All these have yielded typical skulls, showing the same characters found in the Mediterranean populations, whether Iberian, Ligurian, Pelasgian, or Egyptian, and allied to those of East Africa. More-

over, there still exist whole Mediterranean populations which, in spite of mingling with other peoples and of historical vicissitudes, still preserve their primitive racial elements.

Towards the end of the neolithic period, and after the first and pacific appearance of the Asiatic tribes which insinuated themselves in the midst of the early inhabitants, a great anthropological change took place

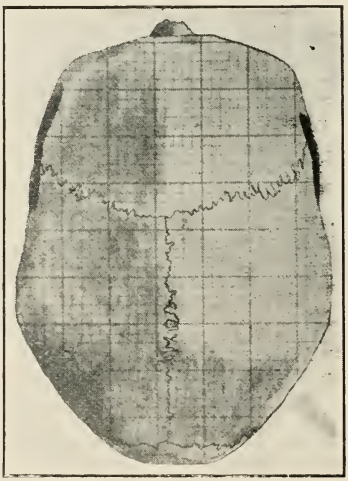

FIG. 59.—Scandinavian Skull of Viking type. Eurafrican species, *Pentagonoides acutus* (Barth).

in Europe, affecting even the Mediterranean, although in a slight degree. A new and different stock, strong and numerous, advanced from the east, and spread through the centre, west, and south of Europe, overflowing the primitive stock, in many regions succeeding in displacing it, in others in subjugating it. This stock, being of Asiatic origin, I call *Eurasiatic*, on account of its diffusion in Asia, its place of origin,

and in Europe, where it succeeded in dominating the entire population.

This new stock is, by its physical characters, visible and distinguishable in English burial-places, especially the Round Barrows, as has been shown by Thurnam and other English anthropologists; it is also seen in France, whence it seems to have passed

FIG. 60.—Dolicho-ellipsoid face, Mummy of Ramses II. Eurafrican species (Maspero).

over to the British Isles. In France, the Celts, a branch of the new stock, drove back the Iberian tribes, which still continued to live beyond the Garonne up to the epoch of Cro-Magnon, while other Celtic fractions penetrated Spain, and others advanced into the valley of the Rhone and mixed with the Iberians and Ligurians. In Savoy and in Switzerland they supplanted the primitive popula-

tion, and achieved nearly as much in the Po valley, confining the primitive Ligurian inhabitants within the present narrow region of Liguria at the foot of the Apennines.

At the same time these Asiatic invaders, afterwards receiving the racial names of Germans and Slavs, spread into Germany, Bohemia, the valley of the Danube, extending into the Balkan peninsula, and as far as Asia Minor. It was at this period that Scandinavia was peopled, for the primitive inhabitants of the European continent were driven towards the north by the new invaders, reaching the Baltic Sea, and thence the Scandinavian peninsula. Here the remains of the ancient stock of African origin are very numerous, even more so than in northern Germany. Here also they acquired a special physiognomy well known to-day as peculiar to the Swedish and Norwegian populations.

Thus was introduced an almost general change in the races of Western and Central Europe, England, France, Southern Germany, Switzerland, and Russia, while a partial change took place in the Mediterranean regions of Europe. Where the new stock met with more resistance only a few sporadic elements were able to find admission; where it found less it mixed with or completely supplanted the old population.

Italy, as I have said, except in the Po valley, remained as in primitive times, few new elements being introduced into its stock; the population of the centre, the south, and the islands, although containing elements of Asiatic origin, was not changed because the elements that prevailed are still primitive, a composition of the various branches—Iberian and

Ligurian, Pelasgian and Libyan—of the African or Mediterranean stock. The Iberian peninsula may also boast that its old stock is preponderant. In Greece and Asia Minor the concourse of foreign elements was much greater, while Egypt, in spite of

FIG. 61.—Dolicho-ellipsoid face, Mtesa of Uganda. Eurafrican species (Stanley).

the afflux of many peoples, still preserves much of its old stock. The rest of Africa has undergone mixture, even very recently, but its new elements are mostly of Arabian and very seldom of Asiatic origin.

But even when the racial physiognomy has been

totally changed, the ancient Mediterranean stock has not altogether disappeared. English anthropologists note it as still existing in their country,[1] and so also the French. In Russia I have observed traces of the Mediterranean race among the numerous and varied stocks composing the population, as also I have been able to recognise it in the skulls from the kurgans and the cemeteries of recent historical times. In Scandinavia, as before pointed out, the remains of the ancient stock are most numerous of all.

[1] In a recent book (John Rhys and David Brynmor Jones, *The Welsh People*, 1900) the African origin of the primitive population of Great Britain has been confirmed. It is here shown that the Neo-Celtic language preserves in its syntax the Hamitic and especially Egyptian type (pp. 23 *et seq.*, 34, 74). In an appendix (B), written by Morris Jones ("Pre-Aryan Syntax in Insular Celtic"), the affinity of Hamitic syntax to the Neo-Celtic is more particularly demonstrated, and this conclusion reached: "And if there is evidence that this is so —if we find, on comparison, that Neo-Celtic syntax agrees with Hamitic on almost every point where it differs from Aryan—we have the linguistic complement of the anthropological evidence, and the strongest corroboration of the theory of the kinship of the early inhabitants of Britain to the North African white race" (p. 618).

CHAPTER XIII.

THE PHYSICAL CHARACTERS OF THE MEDITERRANEAN AND ALLIED STOCKS.

General Physical Characters—The Eurafrican Species—The Eurasiatic Species.

General Physical Characters.—It will be seen how in investigating the population of the Mediterranean I have been gradually led to extend my researches beyond that region, and to obtain wider results. New analyses have revealed the racial relationships not only of many African populations still inhabiting the land of their origin, but also of many European populations which have hitherto escaped comparative analysis, or are supposed to belong to other human stocks.

It is a necessity of method for every naturalist to leave the geographical region which he is studying in order to understand the characters of the animal and vegetable species distributed in that region; so also for the anthropologist when investigating a human stock or variety. Like any other naturalist, the anthropologist must seek for the geographical distribution of a species, its variations, the divergencies met in different branches or varieties; nor must he be led astray by some divergent character, which might suggest some other than its true and natural

origin, or some affinity which is only due to secondary characters.

It is this difficulty that we have to meet, as well as the fact that these inductions conflict with the suppositions of many anthropologists who have studied races and peoples by methods which I cannot regard as natural methods, as, for instance, by means of the external cutaneous characters, or by linguistic or by historical methods, which last methods especially can never yield acceptable results in physical

FIG. 62.—Ovoid face, Bisharin from Nubia. Eurafrican species (Sergi).

anthropology. I have studied, as a naturalist and by natural methods, the Mediterranean stock and those united with it by common physical origin. I will briefly set forth the conclusions I have reached as regards physical characters.

In another work[1] I have described at length those African populations which, by the language which many of them speak or have spoken, are called Hamitic; these mingle with the African Mediter-

[1] *Africa*, cap. x. and xx.

ranean populations, described in this work, which belong to the stock that for some time past I have called Mediterranean. The area of geographical distribution of these African populations is immense, for it reaches from the Red Sea to the Atlantic, from the equator, and even beyond the equator, to the Mediterranean. In this vast area we find, when we exclude racial mixtures, that the physical characters of the skeleton, as regards head and face, are uniform,

FIG. 63.—Ovoid face, Egypt. Eurafrican species (Sergi).

but that the physical characters of the skin and intermediate parts, that is to say the development and form of the soft parts, vary. This uniformity of the cranio-facial skeletal characters, which I consider the guiding thread in anthropological research, has led me to regard as a single human stock all the varieties distributed in the area already mentioned. In the varying cutaneous coloration I see an effect of temperature, of climate, of alimentation, and of the manner of life.

Now, to come to the Mediterranean stock, I must make the same distinction of physical characters, that is to say, external, internal, and intermediate. As I have already described it elsewhere, this stock in

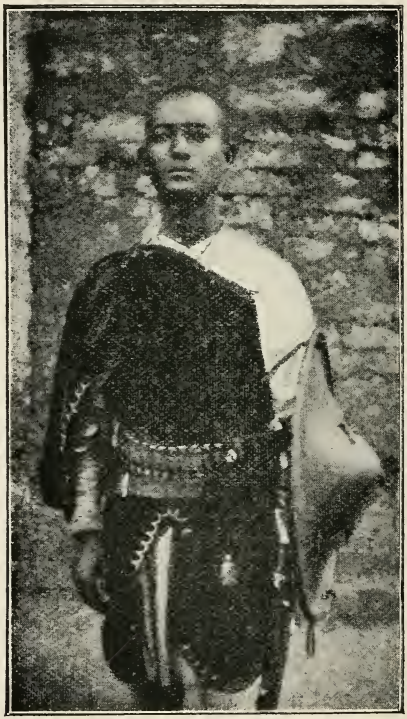

FIG. 64.—Long quadrangular face, Shoan. Eurafrican species (Traversi).

its external characters is a brown human variety, neither white nor negroid, but pure in its elements, that is to say not a product of the mixture of Whites with Negroes or negroid peoples. It is generally

believed that the brown type is derived by mixture, and it is placed among varieties of the White race, the Mediterranean peoples being thus made a branch of that race. This scarcely seems to me exact, for from the behaviour of the external characters in our Mediterranean variety they appear to be of primitive

FIG. 65.—Pentagonal face, a Galla. Eurafrican species (Traversi).

formation, since they are constant within the limits of the populations included under this variety. These external characters are the brown colour of the skin, eyes (chestnut or black iris), hair, beard, and the hair on other parts of the body.

If we consider the other characters as a whole, we find that the body is well formed and proportioned,

of medium stature, oscillating between m. 1.60 and m. 1.70, the nose is either leptorhine or mesorhine (*i.e.*, more or less narrow), the apertures of the eyes horizontal and rather large, the lips sometimes thin and sometimes a little thick and fleshy, the ears standing away from the head, the forehead nearer the vertical than receding, and smooth, often short, the cheek-bones not high nor too distant from each other, the face not flattened, of oval and ellipsoidal contour, the neck long and rounded; in face and look and facial gesture there is an expression of grace, vivacity, and æsthetic beauty. In the masculine sex there is well-defined muscularity, the tendency to undue fleshiness being rare; in the women, the secondary sexual characters, the breasts and hips, are well developed.

It is the cranial and facial forms that lead us to accept the consanguinity of the African Hamites, of red-brown and black colour, with the Mediterranean peoples; the same characters reveal the consanguinity of the primitive inhabitants of Europe, and of their remains in various regions and among various peoples, with the populations of the Mediterranean, and hence also with the Hamites of Africa. For some time past I have reached the conclusion that the so-called Reihengräber type of the Germans and the Viking type of the Scandinavians, being identical in character with the Mediterranean and Hamitic types, had the same African origin; the populations with these cranial and facial forms in the north of Europe are, as I have shown, of African origin, separate branches of the same trunk.

The objections to be made to these conclusions are chiefly two: that these Germanic and Scandinavian

peoples of long skulls and oval faces are blonds in hair and beard, with white skins and blue eyes; and that they are, moreover, of higher stature than the Mediterranean brunets. This latter objection has been brought forward by Keane.

FIG. 65.—Ellipsoid face, Morocco. Eurafrican species (Monbard).

Now, as regards coloration, we may admit, as I have already admitted, as regards the difference between the Mediterranean people and those of east and equatorial Africa, that it is the result of many external conditions. Temperature is one, and perhaps the chief, of these conditions; for when we consider

the residence of a population during many thousand years — that is, from the quaternary epoch to the neolithic and onwards — in a climate where thermal action is weak, we must agree that a kind of albinism would be produced, and hence a decoloration of pigment in all parts of the body, especially in the skin and its appendages. This phenomenon is general in the formation of human races, and gives them characters which, once acquired, may be considered constant, even with a change of locality. To-day, in fact, we see brunets and blonds mixed in various climates, without losing the hereditary colour they have acquired.

We may therefore conclude that as residence under the equator has produced the red-brown and black coloration of the stock, and residence in the Mediterranean the brown colour, so northern Europe has given origin to the white skin, blond hair, and blue or grey eyes. I believe we may consider this a beautiful example of the formation and variation of external characters among a section of the human race which from time immemorial has been diffused by migrations between the equator and the arctic circle, and has formed its external characters according to the variations of latitude and the concomitant external conditions.

The objection regarding the stature of the Germanic or Scandinavian-European type scarcely appears to me to be stronger. In Scandinavia, according to the observations of Hultkrantz and Arbo, only a part of the population presents a very high stature with respect to other European regions, the average being m. 1.69, while the population of the British Isles exceeds in stature that of

Sweden and Norway. Moreover, we find here and there in Europe various groups of populations above the average stature, as in Bosnia, and in Italy in Veneto and Garfagnana, and I have been able to observe, though not in compact groups, gigantic individuals in the population of Puglia, of Catania, and also of Latium. Nor is that all; in east Africa, among the Gallas and Somalis, may be found peoples, like the Dinkas, of stature higher than m. 1.70 and 1.80.

Ripley explains the greater stature of English and some other peoples as partly due to advantageous external conditions, that is as a product of the social environment.[1] I do not dissent from this opinion, but I believe that the sociological factor alone is not sufficient for the formation of stature; we have to take into consideration other biological conditions, external and internal, which it would here be out of place to discuss.

Certainly stature is a character which cannot be passed over in the classification of races; but it is not a primary character which can destroy the value of other characters which already possess an unquestionable importance; it can only serve as a means of sub-dividing human races and sub-races, as in the present case.

Thus we may conclude that when we observe the peoples of various racial names belonging to the Mediterranean stock, including both those in the African regions, called Hamitic, and those in the north, we see a large part of mankind exhibiting constant and persistent characters, from the late quaternary period to the neolithic period, and from

[1] Ripley, *The Races of Europe*, p. 80.

that on to modern times. These characters are those of the skull and the face.

It is not necessary to describe these characters further; but it may be useful to summarise them.

Throughout this immense stock, from the equator in Africa to the Arctic circle in Scandinavia, we have found four characteristic and constant cranial forms,

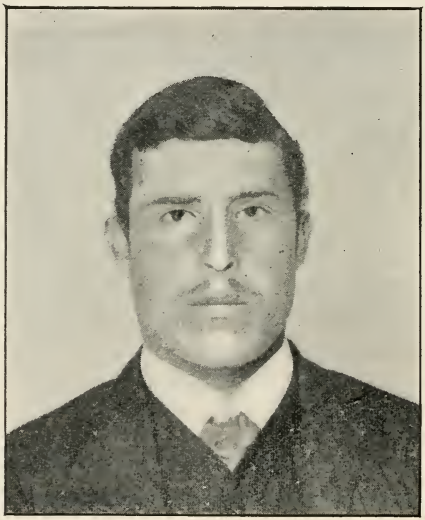

FIG. 67.—Long quadrangular face, Sicily. Eura'rican species (Mantia).

always found together in every region and in every clime, with whatever variations in external characters; these are the pentagonal (*Pentagonoides*), ellipsoidal (*Ellipsoides*), ovoid (*Ovoides*), and the arrow-shaped (*Beloides*). These four forms represent four cranial varieties, each with a series of variations which constitute sub-varieties or sub-forms, corresponding to

the type to which they belong, and which are distributed in different proportions in the groups of populations.

Together with the cranium and its forms, we have to consider the face, both as a whole and in its various parts. In a special study I have been able to show that the face in its outlines assumes forms analogous to those of the skull as seen from above (*i.e.*, in the *norma verticalis*). Ellipsoidal, ovoid, triangular, and

FIG. 68.—Ellipsoid face, Sardinia, Italy. Eurafrican species (Sergi).

parallelogrammatic forms are common to the whole Mediterranean stock, and these forms are associated with the cranial forms distinctive of the stock.[1]

The Eurafrican Species.—The important question arises as to what these cranial and facial forms which we have thus found so common in the great basin, as well as in the peoples of northern Africa and northern Europe, really represent. I have said that they

[1] See my *Specie e Varietà Umane*, cap. ix. and Appendix II ; also *Africa*, cap. xx.

present themselves like the variations of a well determined zoological species, for these varieties are constant and persistent, always associated together in the stock in which they appear, and they have their own particular variations, corresponding to sub-forms or, as I term them, sub-varieties. In other human families I have found other variations, equally common in the groups and branches into which they are divided, and equally mixed in the formation of each branch of the family. On account of the dissimilar architecture which these other cranial forms present with those of the face, it is impossible to admit that they are of the same species as those belonging to the Mediterranean groups. This comparison and a corresponding series of variations have convinced me that this human family, including so many groups of peoples between the equator and the north of Europe, is really a zoological species.

This human species, with cranial and facial characters thus well determined, I call *Eurafrican*;[1] and this because, having had its origin in Africa, where it is still represented by many peoples, it has been diffused from prehistoric times in Europe, and has formed the basis of the most primitive population. This Eurafrican species is not Brinton's race, nor Keane's Caucasian race, for it contains none of the racial elements with cephalic forms, by some termed brachycephalic, which, according to my classification, are cuneiform, spheroidal, and platycephalic; these, I consider, belong to another human species. My Eurafrican species has absolute uniformity of cephalic and facial forms throughout its geographical

[1] *Africa*, cap. xx. ; *Arii e Italici*, cap. ix.

distribution, which is very wide, and beneath whatever colour of skin and hair.

Practically, we may consider the cranial type single, for the four variations are always found together, and we may divide the whole Eurafrican species into races according to the colour of the skin. As I have already pointed out, we have to admit that the variations in pigmentation have taken place in the long course of ages through the influence of environmental conditions; thus, independently of bony variations, races have naturally been formed. The Eurafrican species thus falls into three races: the *African*, with red-brown and black pigmentation; the *Mediterranean*, of brunet complexion, inhabiting the great basin including part of northern Africa, formerly occupying Asia Minor, the three great peninsulas of Europe, the Mediterranean islands, and the Canaries, as well as a portion of western, central, and eastern Europe, now difficult to determine; finally, a *Nordic* race, of blond skin and hair, blue or grey eyes, most numerously represented in Scandinavia, north Germany and England.

Thus the Mediterranean stock is a race or variety of the Eurafrican species, and differs from the two other varieties chiefly in colour. As I have already indicated, it is not confined to the limits of the Mediterranean, for to-day populations with the identical characters of the stock may be found elsewhere in Europe, as in Great Britain. The varied movements of peoples have caused mingling of the two varieties, Mediterranean and Nordic, the brown and the white, and their descendants show correspondingly mixed coloration of the eyes, hair, and skin.

Other variations have been produced in some regions of Europe where the species is diffused, variations which may be called regional or local, both in stature, in muscular and adipose development, and in facial physiognomy. It is easy to understand how certain types in the population of Great Britain,

FIG. 69.—Dolicho-ellipsoid face, Italy. Eurafrican species (Sergi).

observed by Beddoe, have thus been formed.[1] Such variations may constitute sub-races, but in general it is enough to say that they constitute the physiognomy of a population, for it is important to note that this phenomenon is dependent on external physical as well as sociological conditions, which may lead into

[1] *The Races of Britain*, 1885.

error those who think they distinguish race in a people's physiognomy.

The results I have obtained in the investigation of the physical characters of the Mediterranean stock have been logically and rigorously drawn from the zoological method I have adopted. By means of a single character, constant and persistent, we have been able to re-unite many populations which

FIG. 70.—Ovoid face, Italy. Eurafrican species (Sergi).

appeared unlike in racial name and in external physical characters; thus we have reconstituted the species. The introduction of another character, *i.e.* pigmentation, enables us to make a natural division into races; while a final sub-division is made by means of new characters acquired in the different regions inhabited by the same species.[1]

[1] Cf. Ripley, *The Races of Europe*, pp. 467 *et seq.*, where the same conclusions seem to be accepted, at least in part.

The Eurasiatic Species.—The anthropological unity of Europe, existing from the late quaternary epoch and greatly increased during neolithic times, was broken, at first peacefully and to but a slight extent, and afterwards violently, by a new species coming from Asia. As we have already found, at the end of the neolithic epoch the burial-places reveal elements

FIG. 71.—Triangular face. Eurafrican species (Sergi).

foreign to the Eurafrican species, the so-called French neolithic brachycephals. These penetrated, slowly and sporadically, as far as Italy, peacefully, we may suppose, for they produced no change in neolithic customs, and they accepted the burial custom of inhumation. But then they began to come in larger and hence more turbulent bodies, and caused many changes both in the anthropological distribution of

populations and in customs. These invaders were savages, inferior to the neolithic Europeans, whose civilisation they in large part destroyed, re-plunging Europe into barbarism, also introducing the new burial custom of cremation, together with other customs which it is not necessary to investigate here, and transforming the existing languages into their own, which was a flexional language. To-day this new anthropological family, which also constitutes a zoological unit, bears three chief names, indicating three characteristic linguistic groups—that is to say, Celts, Germans, and Slavs.

The physical characters of the new people are visible in their cranial and facial forms, which are those of the neolithic brachycephals. In various writings I have dealt with this people;[1] it is sufficient to mention here that the skull shows four primary forms: *cuboid*, *cuneiform* or *sphenoid*, *spheroid*, and *platycephalic*, all corresponding to broad, brachycephalic skulls, and not reducible to Eurafrican forms. According to my criterion, these forms are varieties of an anthropological species, which must be regarded as arising in Asia, where we may suppose it had its cradle. I term it the *Eurasiatic* species, because, since the invasions just mentioned, it has occupied a large part of Europe. Others, with Linnæus, have termed these Asiatics *Homo Alpinus;* it seems to me erroneous, however, to preserve this name, for these people are not only found in the Alps but they are also found in Germany and France, and they occupy the plains of Russia, that is to say a great part of Central Europe from east to west, as well as the valley of the Po, which is anything but Alpine.

[1] See, *e.g.*, *Specie e Varietà Umane.*

I am convinced that this Eurasiatic species is of Asiatic origin; since Ujfalvy has found in the Hindu-Kusch the same types that are found in Europe;[1] and since their cephalic forms are all Asiatic, and are found not only among the so-called Aryans of

FIG. 72.—Dolicho-ovoid face, German, Reihengräber type. Eurafrican species (Von Hölder).

the Hindu-Kusch, but among the Mongols and others. I am also convinced that this Eurasiatic species has yielded those populations called Aryan, and to-day represented by three chief branches, the Celts, the

[1] *Les Aryens au nord et au sud de l'Hindou-Kouch*, Paris, 1896; Ripley, *Races of Europe*, pp. 470 *et seq.*

Germans, and the Slavs; while the populations, outside these three branches, which have been called Aryan on linguistic grounds, *i.e.*, the Latins, Hellenes, and Germans of the Reihengräber type, are not Aryans, though Aryanised in language. I am, finally, convinced that these Aryans when they invaded Europe were savages, very inferior in civilisation to the neolithic Eurafricans, and that hence they were not the importers of a new and superior civilisation, as has been stated by those who were in ignorance of the real facts.

This is not the place to speak at length of the Eurasiatics; on another occasion I propose to deal with their physical characters and their primitive civilisation.

CHAPTER XIV.

MEDITERRANEAN CIVILISATION AND ITS DIFFUSION IN EUROPE.

Architecture of Tombs—Culture—Writing—Language.

Architecture of Tombs.—The burial customs of ancient and modern peoples not only present a curious study, but they furnish indications of the ideas and feelings which peoples have cherished regarding human existence. There are two forms of burial which may be said to be universal: the preservation of the dead by various methods, and their destruction by fire or other means. It often happens that a burial custom may serve to indicate a stock; sometimes it supplies important evidence of the presence or dominance of some other stock, and at times it is difficult to distinguish the effects of the mixture of stocks. In the Mediterranean stock the primitive funeral custom, preserved unchanged in many regions, is the preservation of human remains by inhumation; the tomb, in its architecture, shows special features peculiar to this stock, in all the regions where it is diffused and established, although apparently there are differences in the external constructions of the graves which at first sight would give the impression of varying origin.

The dominant feature in the tombs of the Mediterranean stock is to be found in the fact that the dead

were deposited in more or less spacious chambers, whether natural, like grottoes and caves, or artificial, and in the further fact—which seems, but is not, accessory—that the tombs emerged above the surface and assumed a peculiar form. The grotto or cave, if natural, is found in mountains; if artificial, it may either be in mountains or beneath the surface in level country, but in the latter case an artificial mound of earth or stones, or both mixed, may be raised over it.

FIG. 73.—Dolichocephalic Frenchmen of Dordogne. Eurafrican species (Collignon).

The grottoes may contain more than one individual, even several families, and the corpses may be deposited there at different periods.

Sometimes, however, it is not possible to excavate artificial grottoes on account of the nature of the soil, and then they are constructed with huge stones according to the greater or less facilities possessed, and the more or less favourable conditions of the district. A subterranean grotto may thus be constructed with stones, above or beneath the soil, and

possessing pillars to support the artificial roof. If over these constructions earth is piled and a mound raised, we have tumuli, long or circular, with a cone or rounded, or we have dolmens, which are chambers covered by great slabs of stone, and we have more perfect constructions made with worked stones.

Now any one who, in the light of this primitive conception, considers the ancient burying-places from Asia Minor to Egypt, from Libya to the Atlantic, from Greece to Italy and its islands, from the Iberian peninsula to Great Britain, in Central Europe and in Russia, will find throughout the apparent diversity of architecture the same essential feature: the chambered tomb (of varying size) in which the corpse lies, without being covered by earth.

In the Ligurian Riviera, the Ligurians are buried in natural chambers, as also in Vezère in France where is found that branch of the Mediterranean family called Cro-Magnon from the cave in which their ancient remains were found. This cave, it is known, with others, including those with Ligurian remains, are probably of quaternary age. In the Iberian peninsula natural grottoes are employed as graves, while artificial grottoes are also excavated beneath the surface, similar to those at Syracuse and Palermo in Sicily. In the Balearic Islands chambered tombs are found beneath the surface, and are more complex in their internal construction, as Cartailhac has shown; while at Cyprus Ohnefalsch-Richter has discovered some of the same type as those of the Siculi and Iberians. Throughout Northern Africa are found dolmens and sepulchral tumuli like those of France, Britain, and Corsica, and in Russia the early kurgans have the same character.

The most artistic tombs are found in Asia Minor, where they are excavated in the mountains; a celebrated example is that in Lydia described by Herodotus, the tomb of Alyattes, which must have been an artistic pyramid. Greece has the treasure of Atreus in Mycenæ, Sardinia its numerous monuments, regarded as mysterious, and Egypt has its pyramids, the grandest sepulchral tumuli which a people has ever erected. To a careful observer the interior of a pyramid, as a sepulchre, is not different from a British tumulus, or from a Russian kurgan, or from the nurags or the dolmens or the artificial grottoes of Spain and Sicily; the differences are according as there is more or less subterranean space, as the art is rough and primitive or more advanced and perfected. The exterior, it is fairly obvious, is different; but a tumulus is a pyramid in embryo, and the pyramid is a tumulus in its most magnificently colossal form; it is, moreover, well known that the pyramids developed out of more modest modes of burial. If this were the proper place for such an exposition, I could show that the Etruscan chambered tomb belongs to the same type as the Egyptian pyramids and the tumuli, and that the paintings and scenes from real life in the Etruscan tombs are comparable to those of the pyramids.

Thus, wherever the Mediterranean stock established itself, it preserved its primitive burial custom of inhumation and the characteristic architecture of the chambered tomb; the varying exterior which renders the tombs of some regions different, depends on local conditions, more especially the nature of the soil, and also on the special circumstances of each particular branch of the common stock, and the various con-

dition of development of its civilisation and political power, the influences which it had undergone in contact with other nations. When, later on, various branches of the Mediterranean stock were conquered by that Eurasiatic stock which has been called proto-Celtic, or by some other Eurasiatic branch; or when the new stock only came into relation with the Medi-

FIG. 74.—Islander of Lewis (Hebrides), Northern Race. Eurafrican species (Beddoe).

terranean stock, the influences were reciprocal and a noteworthy phenomenon may be observed. The conquerors, as may be seen in the English tumuli, adopted the funeral custom existing among the conquered, the tumuli and the dolmens, but to some extent they at the same time introduced cremation. Where the contact of the two stocks was effected without violence each preserved its own

custom; in the *terramare* of the Po cremation is practised by the inhabitants, and the tombs are of very poor character, while in the same valley of the Po the Ligurians, where they still exist, preserved the burial type of the stock to which they belonged, adopting cremation also, perhaps from the Eurasiatic

FIG. 75.—Anglian type, common in north and north-east of England. Eurafrican species, Northern Race (Beddoe).

peoples.[1] But in the more advanced stage of the bronze age in Italy, as at Villanova, where the same type of civilisation is found, cremation is the accepted funeral rite. These sepulchres are attributed to the Umbrians or to the Italici, typically considered,

[1] Not from Italic influences, as supposed by Pigorini, "I Liguri nelle tombe della prima età del ferro di Golasecca," *Accad. Lincei*, Rome, 1894

both by Pigorini, who believes that these Italici are the people of the *terramare*, and by Brizio, who regards them as Indo-Europeans from beyond the Alps. On my part, having shown the unity of the

FIG. 76.—Englishwoman of Plymouth (Devon). Eurafrican species (Beddoe).

Mediterranean stock, and hence the filiation of the Italici to that stock, I believe that at that rather late epoch, this people, together with the importation of bronze, had also undergone the influences of the new

civilisation as well as of the new burial customs. The same thing had happened also in Greece.

These sepulchral monuments, therefore — tumuli, dolmens, pyramids, nurags, the constructions of the Balearic Islands and those of Pantellaria, the natural and artificial grottoes of the Mediterranean region— contain the bones of the Mediterranean stock which, from the early days during which it peopled the Mediterranean and a large part of Europe, dominated the sea and the land during so long a period.

Culture.—Any one who, while investigating European origins, encounters that epoch which French ethnologists have called, with De Mortillet, Magdalenian—an epoch which may be considered as the last European palæolithic period—marvels to find artistic products which are wonderful for their realism and their technical execution. The bear of the grotto of Massat, near Toulouse, the mammoth of La Madeleine, the reindeer of the grotto of Thayingen, near Lake Constance, the horses, human figures, bisons, and other animals carved in bone and horn, in large part found in Dordogne, and finally the carvings in relief found by Piette at Brassempouy and Mas-d'Azil, all show clearly the character of the art at this period, so ancient and so remote from modern civilisation.[1]

In my opinion, as already expressed elsewhere,[2] these prehistoric artists who possessed such developed artistic feelings are the precursors of the historical

[1] Cf. Wilson, "Prehistoric Art; or, the Origin of Art as manifested in the work of Prehistoric Man," *Report of U.S. National Museum for 1896*, Washington, 1898. In this work, with the aid of clear and beautiful illustrations, all the prehistoric discoveries of Europe and America are brought together.

[2] *Arii e Italici.*

artists who created the marvellous works of Egypt, Greece, and Rome. And if it is true, as I have sought to show, that a stock coming from Africa was diffused during quaternary times throughout the Mediterranean and over all Europe, and that this stock, by me now classified as the Eurafrican species, continued its existence into neolithic times, and later in the

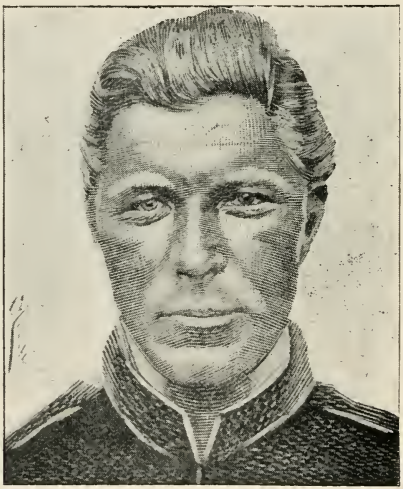

FIG. 77.—Norwegian of South Osterdal. Ceph. ind., 70.2. Northern race. Eurafrican species (Arbo).

successive ages of metal, it is to this stock that we must attribute these artistic manifestations which were afterwards to assume such marvellous forms and to reach their height in the classic art of the Mediterranean. This conviction has grown within me as I have observed the constant convergence of physical characters among the primitive inhabitants of these regions, and belief in this unity of the stock is con-

firmed by the persistent artistic tendency which it has shown even in epochs so remote.

The Neolithic age presents a singular uniformity, from prehistoric Egypt to Scandinavia, from the British Isles to the Black Sea, and throughout the whole Mediterranean. This uniformity is chiefly shown in the shape and ornamentation of the pottery and in the working of the stone, as well as in the curious mode of burying the dead, in a doubled-up and crouching position, except in rare instances, and in the grotto tombs, with chambers of more or less artistic character, of which I have already spoken. Such uniformity records and confirms the anthropological uniformity of the various populations from whom these customs and this art proceeded. This neolithic uniformity corrects in part the discontinuity of the Magdalenian period, for at present the manifestations of that period do not appear to be so continuous or so extended as those of the Neolithic period. It is reasonable, however, to believe that in quaternary times the population was less numerous and less diffused, and that among some portions of it the artistic tendency, which we find so advanced among other portions, had not yet developed.

Concerning this epoch, so important in the history of mankind and especially in the history of the Eur-africa species, we possess to-day valuable documents in prehistoric Egypt and in the eastern Mediterranean, in both which regions a very archaic indigenous civilisation appears. In fact, the discoveries of Petrie, of Amélineau, and of De Morgan show that prehistoric Egypt was not influenced by any oriental civilisation, as many authors have been inclined to believe. I have, however, already dealt with this matter, and have concluded that

the historical Egyptian civilisation is a continuation and a development of the prehistoric, so that there is no need to assume an Asiatic immigration. Certainly we cannot absolutely exclude all relations with Asia, on account of the proximity of Egypt to that region, but the prehistoric civilisation of Egypt is purely Libyan, and in comparison with contemporary European civilisation very developed, as may be seen by its products and by the exquisitely worked flints.

If we turn to the facts revealed at Cyprus we find for the most part a confirmation of the views here expressed regarding the origins of Mediterranean civilisation. And as I have already said, Ohnefalsch-Richter's fresh explorations in this island have lately shown how ancient the civilisation there is, anterior to any Asiatic influence, even anterior to the corresponding periods at Hissarlik. He has also affirmed the relationship of Cyprus with the Nile valley, since a common civilisation existed in prehistoric times and an exchange of manufactures. This civilisation is not Asiatic, but indigenous and very ancient; it may be termed Afro-Mediterranean.

Asiatic influences came later, perhaps some thousand years later, if the first Cyprus period, as Ohnefalsch-Richter concludes, is anterior to the last Hissarlik stratum, which stratum, it appears to me, cannot be considered Asiatic, though situated in the Troas, but Mediterranean, since it is exempt from Mesopotamian and Hittite influence and common with the primitive Mediterranean civilisation, that of Cyprus especially, so as to lead Ohnefalsch-Richter and Myres to regard it as an importation from Cyprus.[1]

[1] Ohnefalsch-Richter, "Neues über die auf Cypern Ausgrabungen," *cit.*, pp. 39, 353.

It appears to me also that, in the recesses of the eastern Mediterranean, in Libyan Egypt, in the western regions of Asia Minor, as well as in the western Mediterranean and in Europe generally to the north of the great basin, the civilisation that we call neolithic, and in its later development, when copper was used as well as worked stone, æneolithic, is indigenous and free from Asiatic influences. It seems to me that in this civilisation we see a unity corresponding to that of the Eurafrican species which possessed it and created it, although indeed certain variations of development and form appeared in different districts, due to biological as well as to regional causes. In Sicily Orsi has discovered forms of primitive civilisation analogous to those of the most ancient strata of Cyprus and Hissarlik, though in spite of the analogies there seemed something special and independent in the civilisation of the island, possessing its own peculiar characters. But oriental importations soon reached the island, and then began imitation.

By means of the skulls exhumed by Orsi, and belonging to his first Siculic period, the Æneolithic period, I have been able to show the oriental current to the west, especially in Sicily, at that remote epoch. Amidst the Mediterranean cranial forms I have found foreign shapes which I judge to be of Asiatic origin, chiefly from the region of the Caucasus and Armenia.[1]

But while the presence of Asiatic heads in the Mediterranean proves relations with the east, it cannot be said to disprove the statement already made as to the purely indigenous nature of the Afro-Mediterranean civilisation. These foreign skulls

[1] "Cranii preistorici della Sicilia," *cit.*

merely show the tendencies of populations to flow towards centres of commercial movement, and hence to mingle and emigrate with those who are leading such movements. We may thus interpret the presence of foreign, and especially Caucasic and Armenian elements in the west at this remote period, together with the absence of the influence of any corresponding Asiatic civilisation. This may be seen by the objects found, some of them local products, and others imported, but always Mediterranean.

But it was the metallic art, the use of copper and bronze, which was destined to change the whole physiognomy of these ages and develop the latent germs of Mediterranean civilisation. While discoveries in Egypt seem to show that bronze was only known there at a relatively late date, it is now established that at Cyprus the use of copper existed at a very remote period, anterior, it seems, to the last Hissarlik period. Ohnefalsch-Richter even doubts the existence of a stone age in Cyprus, on account of the very small number of flints yet found in the island ;[1] and Myres also believes that "the stone age is apparently not represented in Cyprus as a distinct period of long duration ;"[2] while copper and soon afterwards bronze are found in abundance. In 1895 I had already written that "the origin of the use of metals in the Mediterranean may be found in Cyprus, the island of copper ; thence its use was diffused through other Mediterranean regions, and through the Black Sea, and thence probably by the Danube into Hungary."[3]

[1] *Op. cit.*, pp. 32, 300.

[2] "Copper and Bronze in Cyprus and in South-East Europe," *Jour. Anthrop. Inst.*, Nov. 1897.

[3] *Origine e Diffusione della Stirpe Mediterranea*, pp. 134-5.

To-day the fact that Cyprus was the centre of diffusion of copper and then of bronze throughout the Mediterranean and Europe generally, seems confirmed by new discoveries, and by explorers like Ohnefalsch-Richter and Myres, who have been able to show the contemporaneous existence, at least in part, of the copper age in Cyprus with the late neolithic period in other regions; as likewise it seems to be shown that the primitive types of axes came from this island, and were diffused throughout the Mediterranean and Europe.[1]

The civilisation which I have termed Afro-Mediterranean, and which might perhaps be better called indigenous Afro-European, was succeeded by more or less powerful Asiatic influences, until we reach a new type of civilisation characterised by the art and architecture of the city and the acropolis, the so-called Mycenæan or Ægean civilisation.

To realise the oriental characters in Mycenæan art it is sufficient to observe the golden model of a temple, found in the fourth sepulchre of Mycenæ, the siege scene on a silver vase recalling similar if not identical representations in Nineveh and Babylon, the lion hunt on a bronze blade, certain steles with reliefs representing a chariot drawn by a horse, many gem intaglios, and very many productions in gold and silver.[2] I am therefore surprised to find Flinders Petrie, one of the best authorities on the eastern Mediterranean, stating that "the whole of the early civilisation of the Peloponnesus, commonly now

[1] *Op. cit.*

[2] Schliemann, *Mykenæ*, London, 1878; Tsountas and Manatt, *The Mycenean Age*, London, 1897; Halbherr and Orsi, *Antichità dell' antro di Zeus Ideo*, Florence, 1888.

known as the 'Mykenæan period,' is a branch of the civilisation of the bronze age in Europe, which had but little contact with the East. Gaul, Hungary, Italy, Greece, and Libya all enjoyed a simultaneous civilisation which brought these countries far more into contact with one another than with the Asiatic lands which played so great a part in the later-Greece culture.[1]

Nor can we attribute any value to the argument of Tsountas regarding the supposed northern origin of the Mycenæans. Two of these arguments have been sufficiently answered by Dörpfeld, I refer to the form of the roofs of the Mycenæan houses which Tsountas supposes to be gable roofs, and to the basements of the houses which, he considers, resemble those of the pile huts, both constructions by him regarded as peculiar to northern countries. The comparison with the *terramare* of the Po valley, as interpreted by Pigorini, is still more fallacious and erroneous, as I have shown at length elsewhere.[2]

The opinion of Reinach on this matter, though brilliantly set forth in his "Mirage Oriental,"[3] scarcely seems to me worth discussion. I dealt with it in the Italian edition of this work, but I now consider it unnecessary to do so, since he has found no followers, and his conclusions are indeed contrary to the evident nature of the facts.

For Montelius the Mycenæans are the Tyrrhenians and Pelasgians of Asia Minor, since, he writes, "it is evident that the Mycenæan civilisation in Greece is

[1] "The Egyptian Bases of Greek History," *Journal of Hellenic Studies*, xi., 1890.

[2] Tsountas and Manatt, *cit.*, pp. xxvii., xxix., xxx., 70, 326; chs. iv., vi., xiv.; Sergi, *Arii e Italici*, cap. ii.

[3] *L'Anthropologie*, 1893.

due not only to an influence from another country, but to immigration of a new people. That this people—or at least the great majority of the immigrants—came from Asia Minor is proved by the important fact, which, however, has not been sufficiently noticed, that the Mycenæan tombs are of the same kind as those common in Asia Minor. . . . The lions on the famous gate of Mycenæ and numerous other objects point also in the direction of Asia Minor, because similar remains have been discovered there, but do not exist in Phœnicia or Egypt."[1] He also believes, as I have already remarked, that the Tyrrhenians who came to Italy, or the Etruscans, were Pelasgians emigrating from Greece, united with related peoples from Asia Minor.

Ohnefalsch-Richter considers that Arcadians, Laconians, Pelasgo-Tyrrhenians, Lycians, all took part in Mycenæan civilisation.[2] I am not prepared to deny this, and would only remark that it is hypothetical; it is possible, even natural, that many racial elements should have assisted in the formation and expansion of Mycenæan civilisation, but it is difficult to determine with precision what these elements and their national names were. However this may have been, all these racial elements belonged to the Mediterranean stock, as localised portions in different regions with different names, and my conviction is that they belonged to the Pelasgian branch, for this branch from prehistoric times occupied, as I have already pointed out, the east of the basin, including Asia Minor, the Ægean Sea, and the Greek peninsula.

[1] "The Tyrrhenians in Greece and Italy," *cit.*

[2] *Op. cit.*, pp. 356-365.

It is very probable, therefore, that the eastern importers of Mycenæan civilisation were the Pelasgo-Tyrrhenians, as Montelius supposes, united with other related peoples having no prominent racial names. As we have already seen, the Asiatic immigrants, Pelasgians or Pelasgo-Tyrrhenians, were not anthropologically foreign to the Mediterranean stock, nor to the primitive inhabitants of the Ægean islands and the Peloponnesus, who were likewise Pelasgians. These already possessed a pre-Mycenæan civilisation in common with the Mediterranean or Afro-Mediterranean civilisation, and received from the new immigrants new elements of Pelasgic civilisation transformed and evolved under Asiatic influences, probably Mesopotamian and Hittite.

We then meet with a phenomenon which it is important to note, and that is that this so-called Mycenæan civilisation in the Ægean preserved many of its oriental characters, so as to render its immediate derivation obvious, but when it spread towards the west and the north, in the Mediterranean and in Continental Europe, it began to lose many of these characters and to acquire others peculiar to the populations which adopted it; the oriental character thus diminished together with distance from the centre of propagation. As the Mycenæan civilisation spread in Italy and Spain its eastern character became attenuated, and still more as it spread through Central and Northern Europe.

This is natural, since every people receives germs from other regions but develops them, imitating an art according to its own disposition and earlier conditions, and thus gives a special physiognomy to a product imported from another place. Many forms

and many artistic motives are preserved in such a migration, but they no longer retain their original character.

Sicily offers an illustration of this statement. Mycenæan civilisation penetrated there, as Orsi has well shown; and a superficial observation of the vases, bronzes, and other objects from Orsi's first Siculic period reveals the Mycenæan character of many products. But these only represent a part of the entire products which have very marked local characters, not to be confounded with those of the typical Mycenæan or any other products. A local centre of production existed, and to this the Mycenæan importation was added, as well as imitated with more or less success. Nor is this the only fact that we observe in Sicily; the artistic wealth which we admire at Mycenæ, at Tiryns, at Crete, and wherever else Mycenæan culture is found, only exists as a mere shadow in Sicily, which seems to represent, as it were, the dusk of the great light from the Ægean, whether from lack of mineral resources or from some other cause.

There is, however, one fact which at first seems surprising, the presence, that is, of objects of Mycenæan character in the first Siculic period, which is an æneolithic period. I may refer to the two stones which serve to close the tombs, with spiral ornamentation which is crude but of exactly the same type as the Mycenæan ornamentation,[1] as well as to other imported or imitated objects (Fig. 86). It is surprising because the Mediterranean æneolithic period is more ancient than the Mycenæan period,

[1] Cf. Schliemann, *Mycenæ*, figs. 145-157; Orsi, "La Necropoli di Castelluccio," *Bull. Palet. Italiana*, xvii., 1872, p. 83, Plate VI.

and the explanation seems to be that in Sicily the æneolithic period lasted on until the Mycenæan period reached this district.

It is in the second Siculic period that we find the

Fig. 78.—Grave-stone from the Siculic Necropolis of Castelluccio (Orsi).

most marked Mycenæan influences, with the fine bronze swords and characteristic fibulæ. Thus it seems to me that what Orsi calls the second Siculic period is really the period in which Mycenæan civili-

sation is most evident and abundant, although products of Siculic character neither disappear nor diminish, as is clearly visible in the pottery, which, however, as Orsi shows, presents different characters in the two periods.[1]

I have been led to these conclusions by a recent visit to the Archæological Museum at Syracuse, which may be read like a book written in clear characters on account of the admirable arrangement and order which has been introduced by the distinguished director, Professor Orsi, as also in consequence of the demonstration which he himself has courteously given me.

It is, however, in Italy and the Iberian peninsula that Mycenæan culture seems to me to receive its western explanation. While in the southernmost part of the Italian peninsula we meet with a civilisation very similar to the Siculic,[2] in the central portions, from Latium towards Etruria, and in Umbria and the valley of the Po, especially in the neighbourhood of Bologna, we find a culture the origin of which has given occasion to various interpretations.

Thus, as I have pointed out in my *Arii e Italici*, we have three types of culture: one primitive and very ancient, the neolithic and æneolithic—*i.e.*, the Afro-Mediterranean, now conscientiously and accurately studied by Colini;[3] a second which is divisible into two periods, that of pure bronze and

[1] "La Necropoli di Licodia Eubea," *Bull. Instituto Germ.*, vol. xiii., 1898, pp. 347 *et seq.*

[2] Patroni, "Un Villaggio Siculo presso Matera nell' antica Apulia," *Monumenti Antichi, R. Accad. Lincei*, Rome, 1898.

[3] *Il Sepolcreto di Remedello-sotto nel Bresciano e il periodo eneolitico in Italia*, Parte I., Rome, 1899.

that of the first iron age; a third which may be termed more particularly Etruscan.

In the first burial is by inhumation in natural and artificial grottoes, or in the absence of these the corpse is buried in the doubled-up position, as observed in Sicily and elsewhere in the Mediterranean. This culture is indigenous to the Mediterranean without any Asiatic influence, but revealing the influence of the culture of the eastern Mediterranean, since copper could only have been imported from Cyprus.

In the second period, including the bronze age and the early iron age, burial is by incineration, a funeral custom which I hold to be of absolutely Aryan origin, as shown by its presence in the whole Po valley, in the *terremare* of the bronze age, and in the well tombs of Villanova, of Certosa, of Bologna, in Etruria, and part of Latium. But this culture, whether of pure bronze, or of bronze with the first indications of iron, as found at Villanova and Vetulonia, is an importation from the eastern Mediterranean, with influences from that Asiatic culture which had now become Mycenæan civilisation.

The third or Etruscan form of culture is substantially the same as the second; but while the second is more ancient, though it has already undergone a transformation, as already pointed out, losing in part its Asiatic colouring, so well and clearly preserved in the Mycenæan of the Ægean, the third is a direct Etruscan or Tyrrhenian importation, preserving better than the second its eastern character, though to a less degree than the original Mycenæan or Asiatic.

This may be explained by the fact that while in

Adriatic Umbria we do not know, except by tradition, of any Pelasgian colonies, and hence the culture was imported in the form of commercial products and then imitated, in Etruria, whatever may be said to the contrary, we possess the certainty that an oriental colony has preserved much of the original culture. And while in the civilisation anterior to the Etruscan period the funeral custom of incineration dominated, since Aryan influences prevailed and the culture was of Mycenæan origin, in the Etruscan period Aryan domination had departed, giving place in the greater part of Italy north and south of Etruria to Etruscan influence; we hence find a return to the ancient custom of inhumation peculiar to the Mediterranean stock.

Certainly archæologists have had a difficulty in recognising the eastern origin of the Villanova and Etruscan civilisation on account of the loss or diminution of oriental characters in the passage towards the west, where new local centres of culture were created, beginning naturally with the imitation of importations. This phenomenon may be observed elsewhere, in central and northern Europe, as I shall have to point out, where the discrepancy is greater since the importation is indirect and comes from the south.

The signs are so evident, however, that Pigorini himself, who persists in associating with the *terramare* an Italico-Aryan population and a northern culture, has been forced to recognise the relations between these old stations and the Ægean, though he regards these relations as late, a superposition of Mycenæan culture over a *terramare* culture of other and more ancient origin,[1] in opposition to Orsi and Petersen,

[1] *Bull. di Paletn. Ital.*, vol. xx., p. 173; xxiii., p 86.

who admit an intimate relationship between the Ægean and the Italic culture of the *terramare* and of Villanova.[1]

It is difficult to recognise this fact in the culture of the early iron age in Italy, still more difficult to recognise the similarity, in some cases even the identity, between the bronze *terramare* products and the Mycenæan; it is so difficult that even yet it is denied. To-day, however, after the detailed investigation, especially by Montelius, of the products in question, as well as by such comparisons as those made by Orsi, I believe that there is no longer any room for doubt.[2]

It is probable, as I have already said, that in its introduction into upper Italy, this culture followed two roads, one by sea, and the other along the Danube and over the Alps. This would also explain the later expansion of the Hallstatt culture to Watsch, to the whole of Bosnia and Herzegovina, and to the extended zone which I have elsewhere described.[3] The explanation of the variations which we may find is to be sought in local conditions, the products being imitated and hence varied with greater freedom by the artist.

Let us now, however, turn to the Iberian peninsula,

[1] Petersen, "Comparazione fra le antichità italiche e le egeo-micenee," *Bull.*, *cit.*, xxiii., p. 81. Orsi finds everywhere that the bronzes, swords, daggers, and other objects are of *Mycenæan-terramare* form.

[2] The discovery of tombs showing incineration in Apulia and near Taranto, in which were found bronze objects like those of the *terramare* of the Po valley, and which have improperly been called *terramare*, by no means invalidates my conclusions. It is quite possible that Eurasiatic tribes of the proto-Slavonic branch reached Apulia by sea from the opposite side of the Adriatic.

[3] *Arii e Italici*, p. 145, fig. 38.

where, in the now celebrated discoveries in south-east Spain, we have revealed to us a rich and wonderful culture. Here also there are clear and evident indications of Mycenæan influence, together with local production,[1] which at once gives rise to the idea that oriental imports have awakened a latent activity, and that the fortunate geological conditions of the peninsula, rich in metals, have caused the artistic production to rise easily to a level higher than that of Sicily, which is poor in metals. Nor is it unreasonable to believe, with Orsi, that many Iberian products have reached Sicily, and that this island has thus been affected not only by direct Mycenæan influence but by a reflux and transmuted Mycenæan wave of Iberian character.[2]

After Reinach's strange suppositions, however, a master-hand like that of Montelius was needed in order to delineate the movement of south-eastern culture towards western and northern Europe. On the basis of a special examination of copper and bronze products, and in part also of pottery, Montelius reaches the conclusion that the culture associated with these two metals—one in the pure state and the other alloyed with tin—reached central and northern Europe from the Mediterranean. I will quote his own words:—"In the countries to the south of the northern region, as well as in western Europe, much copper and tin are found. In these two districts the influence of eastern culture is more ancient than in the north, and through this influence a knowledge

[1] Siret, *Les Premiers Ages du Métal dans le sud-est de l'Espagne*, 1887.

[2] "Miniere di selce e sepolcri eneolitici a Monte Tabuto e Monteracello," *Bull. Paletn. Ital.*, xxiv., 1898, p. 200.

was acquired of the use of the metal as discovered in the east. The northern region, during the stone age,

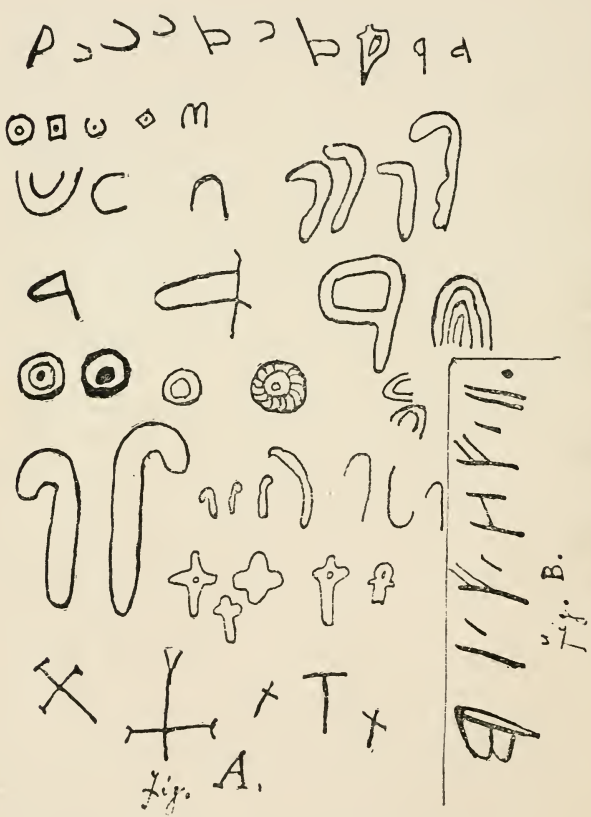

Fig. 79.—Alphabetiform signs from French dolmens.

was already in relation with the east through the peoples of the south and west. There were two roads by which the elements of eastern culture

reached the north. One, which I call western, followed the northern coasts of Africa as far as Spain, and through France and by the British Islands reached the shores of the North Sea, Germany, and Scandinavia. The other, which I call southern, penetrating the Balkan peninsula, or coming by the

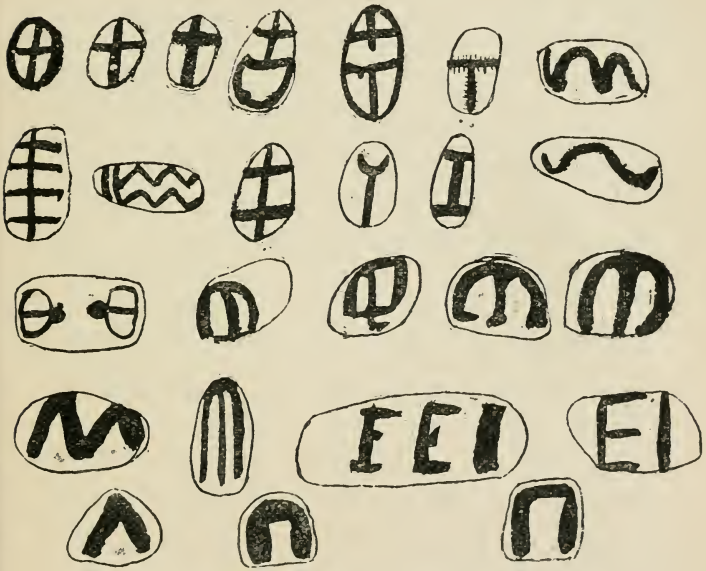

FIG. 80.—Alphabetiform signs from Mas-d'Azil (Piette).

Adriatic coast, passed along the valley of the Danube and continuing along German rivers, especially the Moldau and the Elbe, reached the northern sea-coasts."[1]

After a series of comparisons, and evidence derived

[1] "Die Chronologie der Ältesten Bronzenzeit in Nord Deutschland und Skandinavien," *Archiv für Anthropologie*, xxvi., 1899, p. 465.

from the products, Montelius thus concludes: "All this proves that very soon an influence from the eastern Mediterranean, including Cyprus, was exercised, leading to a knowledge of metals among the peoples of the Balkan peninsula and the Danube valley." He insists also that, as he had stated many years before, bronze reached the north from the Mediterranean, and not from the Phœnicians, and that it was not even imported by the Celts or the Germans.[1] He believes that Italy has been the centre of diffusion of bronze manufactures, but that at the same time there were many local forms, of which, however, the original types may be found in Italy.[2]

From the considerations brought forward by Montelius,—and harmonising with my own conclusions, as expressed on various occasions, regarding the origins of Mediterranean civilisation and its diffusion,—it appears that there has been a movement of culture passing from one spot to another, as from a focus of production; but, on the other hand, there appears to have been as it were the movement of a wave propagated from a centre, in such a manner that the waves, as they became remote from the centre, grew broader and less marked, until they disappeared, leaving only the signs of movement. It is thus that Mediterranean culture appears after the primitive Afro-Mediterranean period, which also had, in part, more or less definite centres of diffusion. But what we call the culture of metals, especially bronze, arose in the east, moved towards the western Mediterranean, reaching continental Europe through various currents from south to north until it arrived at the British Isles on one side, Germany and Scandinavia

[1] *Op. cit.*, pp. 480, 489. [2] *Op. cit.*, pp. 506-509.

on the other, and Central Russia through the Black Sea.

But if the forms of Mediterranean culture were gradually dispersed and lost through these roads of dispersion, another important phenomenon also took place; new kinds of production arose, especially under favourable conditions, leading to local products which departed wholly or in part from the original models and from their technique. It is on account of this phenomenon that the traces of the origins of European culture have often been lost.

The question finally arises: What relation has bronze culture with the peoples called Aryan? were

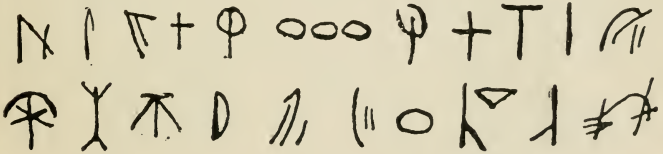

FIG. 81.—Linear writing signs on clay vessels (De Morgan).

they the importers of it? Notwithstanding that I attempted to show, some time ago, against the prevalent opinions, that the Aryan invaders of Europe were barbarians and savages and possessing a culture inferior to that of the neolithic population, I still admitted that they were the importers of bronze.[1] That view seemed to me correct, since, on the whole, bronze appeared in Europe contemporaneously with the Aryan invasion. Not being an archæologist, I had not been able to examine the shapes of such products, as has been done by competent authorities; and seeing the distribution of

[1] *Arii e Italici, cit.*

bronze in Europe always accompanying the distribution of Aryan culture, especially in the graves which show signs of cremation, I was led to suppose that the two were connected and were both manifestations of the same stock.

But the new analyses and new facts bearing on Mediterranean civilisation and its diffusion, which we

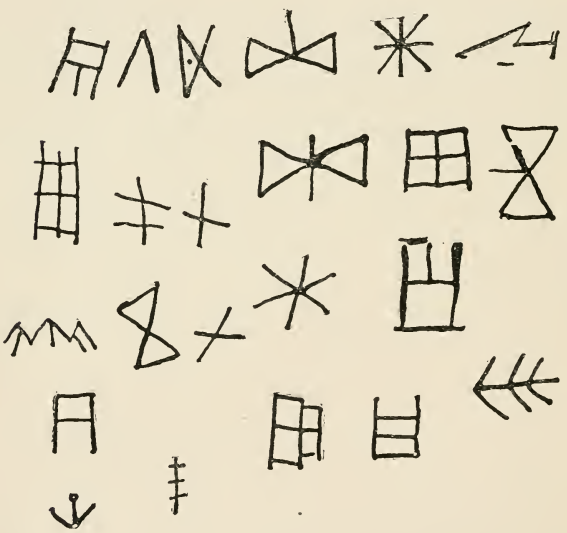

FIG. 82.—Alphabetic signs of the Mycenæan epoch at Crete (Evans).

owe to the labours of Ohnefalsch-Richter, Myres, Orsi, Montelius, and others; the now better known characters, moreover, of Mycenæan culture, which is of bronze, having its source in the Asiatic east, and being diffused throughout Europe by the movement already described; all this, together with the appearance of new centres of production due to the propaga-

tion of Mediterranco-Oriental culture, has led me naturally to the conclusion that it was not the Aryans who imported bronze into Europe, as has hitherto been so widely believed.

A coincidence which united the diffusion of the metallic arts of Asia and of the Mediterranean led to the supposition of a causal connection; just as it led

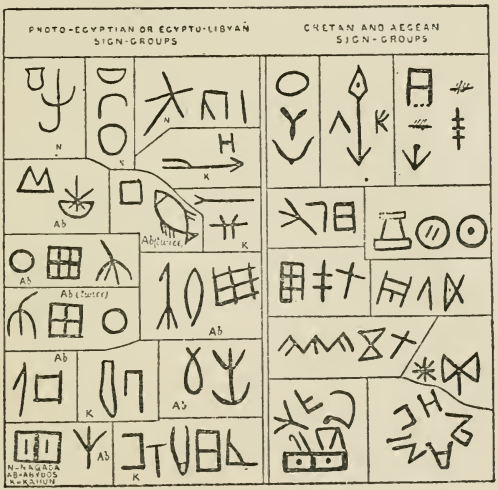

FIG. 83.—Comparison of alphabetiform signs (Evans).

to the supposition that the two great Mediterranean civilisations of later times, Greek and Latin, were due to the Aryans. Certainly the Aryans profited by the metals that reached them from the civilisation they were submerging by their invasion and their barbarism, but they did not contribute to improve the technique, since they were unskilled in the new art; such

improvements always came to them from Mediterranean regions.

I know that this conclusion will be opposed by those who are crystallised in the old ideas arising from the impressions produced by earlier researches; but we need not fear; the future will illumine the truths that are still obscure.

Writing.—To complete the picture of Eurafrican culture in Africa and Europe previous to the Asiatic invasion, which marks a new epoch, it remains to occupy ourselves with the alphabetiform linear writing, the first indications of which appeared at a very early time, anterior to the neolithic period.

The alphabetical characters of Libya and the Canaries have long been known, chiefly through the labours of Faidherbe, but such characters, though they revealed relationship to the Phœnician, were not interpreted in what seems the most natural manner since the prehistoric discoveries in Egypt, and those anterior to the neolithic period in Europe.

Letourneau, in 1893, communicated to the Paris Society of Anthropology certain observations of the alphabetiform signs in megalithic inscriptions, and showed that many of these signs resembled Phœnician characters. He concluded:—"Among the signs impressed on the megaliths and on the rocks of Celtic countries, in Spain, in the Canaries, in Africa, we find some which have an undeniable resemblance with certain letters of the best known ancient alphabets of African origin. The alphabetiform characters of the megaliths and rocks are still crude, badly arranged in inscriptions or isolated, sometimes employed as motives of decoration. It is impossible to say what real value we ought to attribute to these characters;

but we seem to be in presence of an alphabet in course of formation, earlier than the best known ancient alphabets, which all belong to historical peoples. On the whole, these signs seem to indicate that the builders of our megalithic monuments came from the south and were related to the races of North Africa."[1]

I have brought together some of these signs taken from French dolmens (Fig. 79).

A more curious discovery was, however, made by Piette among the remains of a period earlier than that of the dolmens, altogether anterior to neolithic times; that is to say at the end of the Magdalenian epoch, in a period of transition from palæolithic to neolithic Europe; he discovered at Mas-d'Azil, in the south-east of France, in a grotto he was excavating, many pebbles coloured with peroxide of iron, and showing alphabetiform signs, some of them similar to those already found on the dolmens.

A specimen of these signs, from Piette's plates, will be found in Fig. 80. Piette's investigation is of considerable importance and reveals a fact worthy of careful attention, as he himself points out when making a comparison of the signs from the Mas-d'Azil grotto with the Cypriote and Ægean characters already in use in the Mediterranean before the so-called discovery of the Phœnicians. He concludes:— "A comparative study shows that nine of the Mas-d'Azil graphic signs are identical with characters in the Cypriote syllabary: *Ko*, *mo*, *pa*, *lo*, *si*, *ve*, *sa*, *ti*, *ta*. Eight of the Mas-d'Azil signs, of which some are also Cypriote, form part of the Ægean alphabet. Many ancient inscriptions from Asia Minor, also,

[1] *Bull. de la Soc. d'Anth. de Paris*, April, 1893.

especially from the Troad, present characters resembling the pictures from Mas-d'Azil. Recognising in the Cypriote and Ægean alphabets, or in the

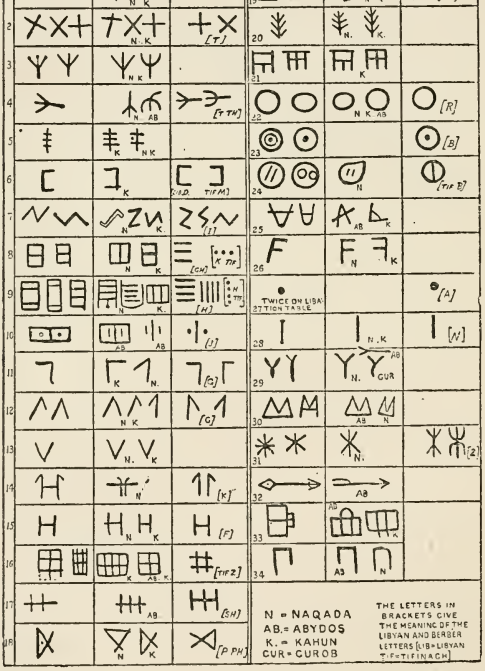
CRETAN AND AEGEAN
EGYPTO-LIBYAN OR PROTO-EGYPTIAN
LIBYAN INSCRIPTIONS AND TIFINAGH
CRETAN AND AEGEAN
EGYPTO-LIBYAN OR PROTO-EGYPTIAN
LIBYAN INSCRIPTIONS AND TIFINAGH
TWICE ON LIBATION TABLE
N = NAQADA
AB. = ABYDOS
K. = KAHUN
CUR = CUROB
THE LETTERS IN BRACKETS GIVE THE MEANING OF THE LIBYAN AND BERBER LETTERS (LIB = LIBYAN T.F. = TIFINAGH)

FIG. 84.—Comparative Table (Evans).

writing in use in Asia Minor before the Trojan war, the characters of Mas-d'Azil, there is ground for believing either that the invasions from the west to the east carried into these regions at a very ancient

period the writing used in Pyrenean districts, or that the rudimentary writing of Mas-d'Azil was in prehistoric times the common patrimony of the Mediterranean littoral and the coasts of the Archipelago." [1]

Putting aside, for the present, Piette's hypotheses regarding the alphabetical signs, it is important to

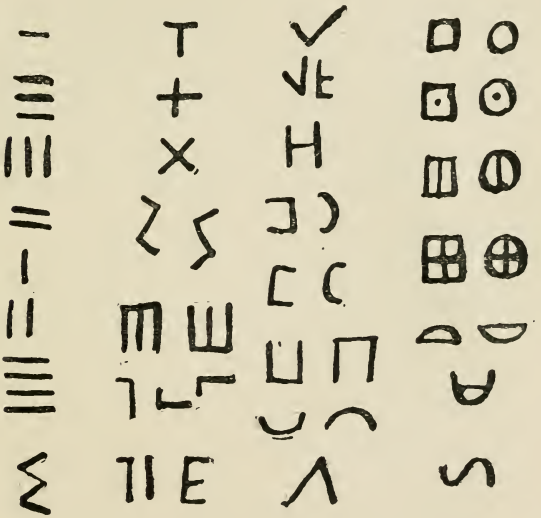

FIG. 85.—Alphabet from the Canaries (Verneau).

show that many such signs existed in neolithic Egyptian times. Fig. 81 shows some of these alphabetical signs, found incised in clay vessels, and collected by De Morgan,[2] which may be compared

[1] "Études d'ethnographie préhistorique," *L'Anthropologie*, vii., 1896, with special atlas; cf. Bordier, "Origines préhistoriques de l'écriture," *Bull. Soc. dauphinoise d'ethnographie*, iv., Grenoble, 1897.

[2] *Recherches sur l'origine de l'Egypte*, ii., p. 166, figs. 528-548, 1897.

with those discovered in the eastern Mediterranean by Arthur Evans, as Mycenæan or Ægean, and of course pre-Phœnician.

Arthur Evans, in an interesting study,[1] has shown the existence of writing in the Mediterranean, first at Crete, and then at other localities in the Ægean, earlier than the writing called Phœnician. In Fig. 82 are reproduced some of the signs of Cretan writing, according to Evans. In a more recent study, the same able author has shown the convergence of the Cretan and Ægean writing with the Proto-Egyptian or Egypto-Libyan, as he calls the prehistoric Egyptian writing found at Ballas, Naqada, Abydos, Kahun, and other prehistoric localities on Egyptian soil (Fig. 83).[2]

Nor does Evans close the comparison here; convinced that the prehistoric Egyptians were Libyans, and therefore of the same stock that peopled Africa to the west of Egypt, including the Sahara, he shows the convergence of Cretan, Ægean, and Proto-Egyptian writing with that now known in Libyan inscriptions under the name of *tifinagh*, which includes the Libyan alphabet (Fig. 84). A similar convergence is evident with the alphabet of the Canaries, allied to the Libyan of Africa (Fig. 85).

We may even extend the comparison still further than Evans, who has confined himself to the Mediterranean, to prehistoric or Libyan Egypt, and to Libya proper; we may compare them, that is, to the alphabetiform signs of Mas-d'Azil and of the

[1] "Primitive Pictographs and a Pre-Phœnician Script from Crete," *Jour. Hellenic Studies*, 1894, vol. xiv.

[2] "Further Discoveries of Cretan and Ægean Script, with Libyan and Proto-Egyptian Comparisons," *Jour., cit.*, 1897, xvii.

European dolmens, of which I have already given some examples. Thus, in the little ivory tablets of prehistoric Egypt (p. 97),[1] we find signs identical with those of the dolmens (Fig. 79), and with others from Mas-d'Azil (Fig. 80), and it is easy to prove that others of these latter signs are identical with those of Cretan, Ægean, and Libyan writing, and that of the Canaries. Such signs may still be seen in certain cubes of earth or clay found in the fourth city of Troy (Fig. 86), and reproduced in the Egyptian ivory tablets already mentioned. Contemporary, also, with Cypriote and Ægean writing is found that scattered on vases and other clay vessels in the Troad, in many of the Trojan cities.[2] Similar forms of writing appeared later, in the first iron age, in Italy. Gozzadini transcribed the signs he found incised on the terra-cotta vases of the Villanova and other graves in the neighbourhood of Bologna. I have collected and brought together these signs, by him called seals, and regarded as mere workers' marks, according to their shape and more complex formation, and I have expressed the opinion that they must be a form of writing, on account of the resemblance they exhibit to the writing, afterwards called Phœnician, which became universal in the Mediterranean and elsewhere.[3]

Any one, indeed, who compares the signs of Villanova with the most ancient Cypriote characters (Fig. 87), archaic Phœnician, the Mesa inscription, Carthaginian money (Fig. 88), etc., will find, I will not say identity, but resemblance of form. And in the same

[1] De Morgan, *op. cit.*, ii., 1897, p. 167, figs. 550-555.
[2] *Arii e Italici*, p. 216, fig. 47.
[3] *Arii e Italici*, *cit.*, p. 218, fig. 47.

way, if we compare more recent characters, the Etruscan (Fig. 89), and those we see incised on the mysterious stele lately discovered in the Roman Forum (Fig. 90),

FIG. 86.—Terra-cotta objects from the fourth city of Troy (Schliemann).

we shall obtain confirmation of the belief that the characters called Phœnician are only a derived form of the alphabetiform signs that appeared during

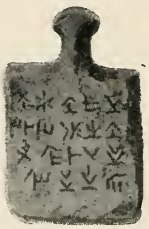

FIG. 87.—Tablet with Cypriote characters (Ohnefalsch-Richter).

prehistoric times in Africa, in the Mediterranean, and in Western Europe. The Phœnicians, if indeed it was the Phœnicians who diffused the alphabet, only systematised signs that were already known and

already indicated phonetic characters, reduced their number, and thus rendered them simpler and more communicable; each people which accepted the forms

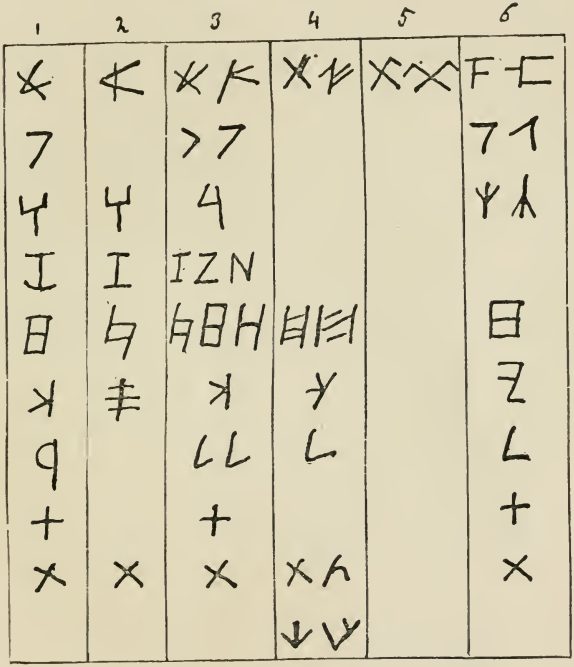

FIG. 88.—1. Archaic Phœnician characters.
2. Mesa inscription.
3. Incised stones.
4. Ibsambul inscription.
5. Carthaginian coin.
6. Archaic Hebrew.
(Lenormant.)

modified them in its own way, so that they now appear as if they had had different origins.

But alphabetiform characters have a still more

ancient origin, of symbolic and pictographic nature, and in every part of the world we have indications of writing. In our own part of the world also, there must have been the same early origins, and indications of this may be found in the Ligurian inscriptions which originated at an unknown epoch.[1] Any one who carefully observes, for instance, Figs. 91-92, sees at once that here are represented implements, animals, and men in a manner that recalls American pictography. Similar also is the significance of some of the inscriptions on the dolmens, as is clear from Fig. 93, which reproduces one of these carvings from Brittany; here are found human feet, primitive axes, and other designs which must indicate implements or other objects of unknown significance. The same may be said regarding the carvings and inscriptions found on Swiss rocks, the date of which is undetermined and is indeed difficult to determine.[2]

The use of writing signs is thus very ancient in the Eurafrican species, so ancient that it already reached definite shape in the Magdalenian epoch, that is to say, earlier than Neolithic times, while its diffusion also is very ancient in the regions over which the species was diffused, in Africa, in the Canaries, in the Mediterranean, in western and central Europe. This supplies additional evidence as to the high development of civilisation among the races of the Mediterranean basin, and among those portions of them which adopted various racial names in proto-historic

[1] Cf. Bucknell, "Le Incisione preistoriche sulle rocce di Fontalba," *Atti Soc. Lig. di Sci. Nat.*, Genoa, 1897; Issel, "Rupe incisa dell' Aquasanta," *Atti, cit.*, 1899; *id.*, "Iscrizioni scoperte nel Finalese," *Bull. Palethn. Ital.*, 1898.

[2] Reber, "Vorhistorische in Canton Wallis (Schweiz)," *Archiv f. Anth.*, xx., pp. 375-377; xxi., pp. 279-294; xxiv., pp. 91-115.

and historic times. At the time of the Asiatic invasions and immigrations they were at a higher level of civilisation than the new people who submerged their civilisation and plunged the primitive inhabitants into barbarism, until new germs arose in the Mediterranean and furnished the two great forms of Græco-Latin civilisation.

From the history of primitive and prehistoric writing we may draw the same conclusion as from the history of the culture or cultures of Mediterranean Europe; that is to say that this primitive civilisation was in part of African origin, like the species itself, in part an Asiatic importation, the latter being later than the former, while the appearance of metals took place at Cyprus, an island marked by its situation as the bridge to unite the eastern Mediterranean to western Asia, and also to form a connection with Egypt and the Ægean; by its mineral wealth Cyprus becomes a point to which the Asiatic west and the Mediterranean east alike flowed, a point at which the civilisation of Asia accumulated, as well as that of the Mediterranean from Mycenæan to classic Hellenic times.

Language.—That portion of mankind which I have called the Eurafrican species must have had a language; this is a very important and curious problem, at the same time one of the most difficult and intricate for prevalent linguistic theories to solve. Notwithstanding this I wish to express certain convictions which I have derived from ethnographic inductions and from some linguistic facts. First of all I will recall what I wrote some years ago when investigating prehistoric Italy.

Having determined that the primitive populations

of Italy were evidently of the Mediterranean stock, a Eurafrican variety, and that the successive arrivals from the north were of Asiatic origin, Celto-Slavs, as they would to-day be called, or Proto-Celts and Proto-Slavs, I wrote: "Archæological and anthropological observations in Italy reveal, it is true, a regional fact, but at the same time they serve to prepare the solution of the Aryo-European problem. For if it is true, as

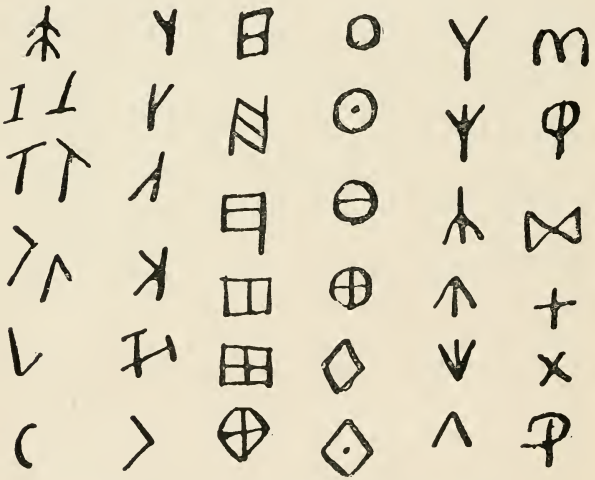

FIG. 89.—Characters of the Etruscan alphabet.

results from the anthropological documents furnished by the most ancient graves in Italy, that the Aryans who invaded Italy possessed brachycephalic heads of various shapes—spheroidal, sphenoidal, and platycephalic—the other Aryans who spoke German or Slavonic must have possessed similar physical characters, if they were genuine Aryans. It would then be the case also that the real Germanic Aryans were not

those of the Reihengräber cephalic type, but those whose type was identical with that of the Slavs and the Celts.

"If the archæological monuments which I have examined, and compared with others from the regions where the Aryans represent the Proto-Celts and the Proto-Slavs, indicate that the Aryans who invaded Italy were also Proto-Celts and Proto-Slavs; if the

FIG. 90.—Inscription from the Lapis niger monument in the Roman Forum, northern side of the Stela.

documents discovered in the graves of Etruria, of Latium, of Bologna, confirm this result, it cannot but be admitted that such Aryans did not bring the Italic language with them, but languages which must have been of the same type as those to-day called Celtic and Slavonic, and derived from prehistoric Proto-Slavic tongues, that is to say, they must have been genuinely primitive Aryan tongues.

"Italy, on the other hand, at the period of the

Aryan invasion, must have possessed a language, doubtless with many dialects, having nothing in common with the Aryan tongues. If the stock occupying it from time immemorial was the Mediterranean, which, as I have shown, was divided into many peoples, including the Egyptians, the Libyans, the Iberians, the languages must have been of the same type as those spoken by Egyptians, Libyans, and Iberians, that is to say, of what is called the Hamitic type, and very different in phonetic and morphological characters from the Aryan.

"Hence it is natural to believe that the Aryans who dominated the Italic populations in the Po valley and central Italy not only transformed the customs but also the language. To investigate the process of formation of the Italic languages we do not need, therefore, to go outside Italy. The Aryan language when spoken by a people with another vocabulary, other phonetics, other flexions, another syntax, could not be preserved in its original forms and sounds; it had to undergo a transformation on the basis of a language with different characters. The special Aryan flexion had to undergo a particular alteration in the mouth of him who spoke it incorrectly and imperfectly. Hence may be observed a phenomenon noted by linguists, the fragmentary character of flexion often so complete in other languages of Aryan type, and then a vocabulary different in great part from other Aryan vocabularies, whether Greek, Celtic, or Germanic."[1] Hence I concluded generally that the language of the Aryans transformed but did not destroy the languages spoken in Greece and

[1] *Arii e Italici*, cap. viii., p. 170.

Italy, and that both must have contained the two linguistic elements in different composition.[1]

Keane, who accepts this conception, believes that he modifies it by saying: "To me it appears rather that Aryan tongues everywhere, so to say, took possession of the soil, and effaced those previously current, but in so doing became themselves somewhat modified, especially in their vocabulary and phonetics. Even their structure was disturbed by the conflict, so that there were often great losses and reconstructions, as is plainly seen in the Italic (Latin, Umbrian, Oscan) verbal system."[2] But really Keane is affirming the same thing, and the divergence is apparent rather than real.[3]

Now if it is true that the Mediterranean stock is an anthropological variety of the Eurafrican species, if the Nordic is another variety of the same species, we have to admit that the languages of these two varieties must be of the same origin as the languages of the African varieties, belonging, that is to say, to the linguistic group called Hamitic. It is known also that of the Mediterranean varieties, ancient Egyptian was one of the Hamitic languages like Libyan, as Basque appears to be, an old Iberian residue. Nor is that all, for we have to add to the Hamitic group of the Mediterranean the Pelasgic language represented by Etruscan, hitherto undeciphered because investigators have violently sought to find in it the characters of Aryan languages. Brinton attempted to lead Etruscan back to Libyan, and hence to affirm the ethnological affinity of the Etruscans with the ancient Libyans,[4] and I believe that along this path

[1] *Op. cit.*, p. 176.

[2] Keane, *Man Past and Present*, pp. 512-13.

[3] Cf. Keane, *op. cit.*, pp. 460 *et seq.*

[4] "On Etruscan and Libyan Names: a comparative study," *Proc. Amer. Philos. Soc.*, Philadelphia, xxviii. 132, 1890; "The Ethnological Affinities of the Ancient Etruscans," *ib.*, xxvi., 1889.

we may reach the interpretation of this mysterious language, hitherto refractory to every investigation from the Aryan standpoint. Nor need we wonder, as I have already said elsewhere, to find in Etruscan certain deceptive characters of Aryan flexion, since

FIG. 91.—Prehistoric inscription on the rocks of Val Fontanalba (Bucknell).

such alterations were inevitable in Italy in the midst of languages of Aryan flexion; it is probably these features which have led some linguists to find Aryan characters here at all costs.[1]

[1] *Arii e Italici*, p. 175.

I have much pleasure in referring here to an address by Professor Ascoli at the Twelfth International Congress of Orientalists at Rome. In this address one of the most eminent of European linguists refers to the new directions of science and to the aid which ethnology and anthropology may bring to various hypotheses. Coming to the position of Latin in the Indo-European linguistic family, he

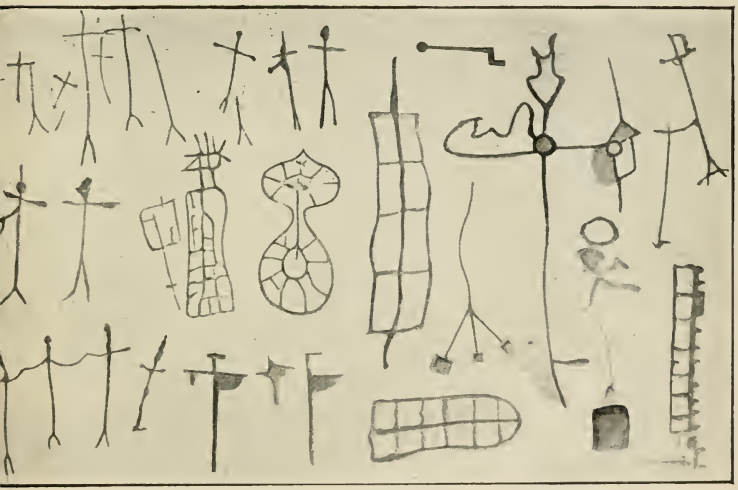

FIG. 92.—Petrogliphs from Finalese, Liguria (Issel).

remarks:—"There must then have been a cause for the inferiority of Latin apart from time or climate, and this could only have been an ethnological cause, due to special or new racial crossings. We may take another example, again from the Indo-European field. A merely descriptive writer notes the regularity which governs the various reflections with which a given phonetic element of the original

patrimony reverberates in the various languages of the family. He notes this regularity and admires it, but fails to understand it. Now the ethnologist may initiate an explanation of such a wide extent of fundamental phenomena. We are concerned with an Aryan speech which comes into successive conflict with various other speeches and subdues them, but not without itself remaining injured or changed. Under certain conditions a subdued and conquered people loses its own language, but it subjects the language of the conqueror to the habits of its own vocal organ. Something of this kind happened in the case of the Gaul who adapted Latin to his use. We have then a kind of musical transposition which passes with natural precision over all the material of language.

"Thus there may be constructed the hypothesis of the formation of various Indo-European complexes, crossed with peoples who were irradiating from their primary seat. But how shall we represent to ourselves these complexes, especially as regards their numerical importance? We here touch the great problem which ethnology, anthropology, glottology, and all history are even more eagerly pursuing, the problem as to the number of individuals who may reasonably be assigned to the various countries at diverse epochs. The belief that a series of fine and complete nations moved from a common centre to people a large part of the world with Indo-Europeans is dying, or already dead, together with a number of other fables regarding the migrations of whole peoples in various historical ages.

"So many ancient complexes of people speaking Indo-European languages should lead us to imagine

them as very small in size. Only with much labour has the earth become populous. A poor clan becomes, in thousands of years, a nation. The imagination of writers has always seen ancient Europe crowded with people, and the notion has not yet died out. Thus, in regard to the phonetic combination KV, Oscan and Umbrian reach P while Latin remains at KV (quod, pod, etc.), and similarly, leaving

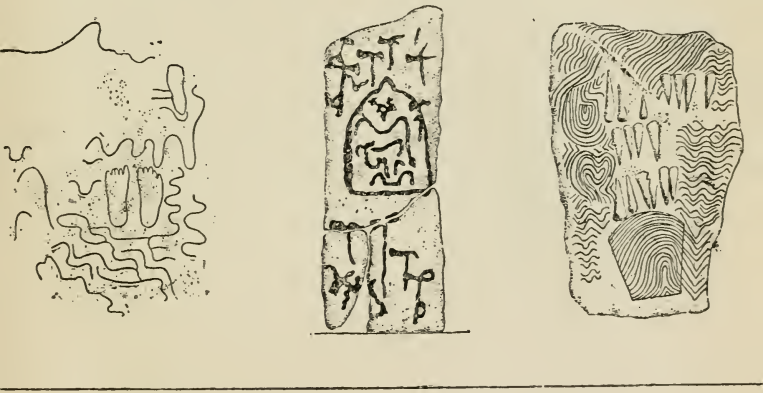

FIG. 93.—Sculptured stones from dolmens in Brittany.

Greece, we find the Britons in opposition to the Hibernians, and again hear of KV peoples and P peoples in historical contrast to each other. We are really only in the presence of a mere peculiarity of pronunciation marking a family which has become a people."

The idea expressed in this discourse coincides in great part with my own view, though I have no wish to give it a greater extension than Ascoli himself

would accept. Certainly, however, it cannot but be true that the various languages of Aryan type have been formed under the influence of other languages, conquered, like the peoples who spoke them. My supposition is that the Latin language shows this phenomenon in a specially marked degree; and hence when I recently observed the interpretations, furnished by philologists, of the inscriptions on the stela discovered in the Roman Forum, by means of Aryan and more especially Nordic languages,[1] I was greatly surprised; these interpreters have not understood what has now been understood by the father of Italian linguists and what I myself expressed some years ago: Latin is not a language which reached Italy in a beautiful and completed form, just as Italy was not entered by an Italic people speaking Latin; but Latin was formed in Italy itself, as well as all the languages related to Latin, fragmentary in phonetics and flexion. The stela of the Roman Forum, like other ancient inscriptions, necessarily showed the traces of the primitive Italic (Mediterranean) language transformed by that of various invaders; to seek to interpret it with the aid of Gothic or old German is as absurd as it would be to seek to interpret Etruscan or Pelasgic with the help of Sanscrit or Finnic.

In the other languages called Indo-European this formation, so clear in the primitive Italic tongues, is perhaps less apparent; thus it may also be in Greek, in spite of the fulness of its forms, and in the Germanic tongues spoken by those populations which, like the Italic and the Greek, underwent invasion and transformation in customs and language.

[1] "Stela con iscrizione Latina arcaica scoperta nel Foro Romano," *Notizie degli Scavi*, Maggio, 1899.

It is necessary to seek for this vanished language from the Mediterranean to the Baltic, and we may thus also find, perhaps, the real cause of the phonetic transformations which now can be only accepted as facts. As the present populations of Europe are in varying proportions a compound of the old Eurafrican species and of the more recently arriving Eurasiatic species, which brought with it flexional languages of Aryan or Indo-European type, so also the languages which seem to be altogether Aryan have an archaic stratum, of Eurafrican origin, corresponding to the languages otherwise called Hamitic, like Egyptian and Libyan.[1]

[1] As I have already observed (p. 246, note 1), a proof of this phenomenon has been brought into evidence by the authors of *The Welsh People*, Prof. Rhys and D. Brynmor-Jones, and especially Prof. Morris Jones, through the analysis of the Neo-Celtic language. I venture to assert that a study of the ancient Italic languages, conducted with the intuition and method of Morris Jones, would remove the veil of mystery that still enwraps them; but to attain this end there must be a diminution of the philo-Aryanism of our linguists.

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